No. 6 1963

Swallowtail at Wicken, 1950 *Photograph by M. C. F. Proctor*

NATURE IN CAMBRIDGESHIRE

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1963

Cambridgeshire and Isle of Ely Naturalists' Trust Ltd.

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THE COUNCIL 1962 - 63

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The drawings were specially done for this number by Mr. B. Golding

EDITORIAL

By the time this number appears it is to be hoped that all who have survived the past winter will be taking an interest in National Nature Week. Great pains are being taken to ensure that no-one in the country is unaware that National Nature Week is taking place. The Council for Nature which is responsible for the Week stresses that nature is something to be studied out of doors, not merely by attending indoor events. To this we may add that if anyone who follows this excellent advice feels inspired to write about any aspect of nature we should be very pleased to hear from him or her.

It is gratifying to hear that in Cambridgeshire the events of National Nature Week will include a visit to Hayley Wood. The purchase of the wood as a nature reserve has been for the Trust the main event of the past year. No-one who has ever owned land will imagine that the matter ends there. The Trust has still to face the cost of its upkeep, and plan the complex management which a woodland reserve needs. For this and for all the other activities of the Trust continued public support is now and always necessary.

CAMBRIDGESHIRE AND ISLE OF ELY NATURALISTS' TRUST LIMITED

SIXTH ANNUAL REPORT, 1962

The activities of the Trust continued to expand during the year, and the membership showed a further increase to 340. The main achievement of 1962 was undoubtedly the successful completion of the purchase of Hayley Wood, the first property to be owned by the Trust. Again the Council are indebted to the voluntary officers of the Society and to many other members who undertook the arduous tasks in connection with the Hayley Appeal and the ever-increasing clerical and administrative burden.

The Honorary Secretary would like to express his particular gratitude to Dr. Perring and Mr. Faulkner for their work during the autumn when he was on leave.

The death of Mr. C. W. Rowell in October was a serious loss to the Trust. As a Council member, he had given freely of his time and technical help, and was actually working on the Trust's affairs at Hayley when he was taken ill.

Hayley Wood

The public appeal to buy Hayley Wood was launched by the Special Appeal Committee in January. An attractive 4-page leaflet was produced, and widely circulated. By the time of the Annual General Meeting held on Saturday 14th April it was evident that sufficient donations had already been received to make it possible for the purchase to be completed. Public response to the Appeal was gratifyingly large, and the total contributed by the end of September - (when the Council received from the Appeals Committee a detailed report) - was £6,131 in donations and covenanted subscriptions, received from 797 people or organisations. The Appeal was for £7,500, of which £5,000 was for purchase and £2,500 to set up a Management Fund. Whilst the immediate aim of buying the reserve has therefore been achieved, the appeal is still well below the target for the Management Fund. (See Treasurer's Report).

A Management Committee for Hayley Wood, with Dr. C.D. Pigott as Secretary, was set up by the Council when the successful outcome of the appeal was known, and both short-term and long-term plans are being worked out to conserve and enhance the biological value of the reserve. A restricted annual shooting tenancy has been negotiated with a neighbouring farmer as an immediate solution to the problem of control of irresponsible shooting and poaching in the wood. The Management Committee intends to review its policy on this and other matters in the future planning, and will eventually produce a scientific management plan for the whole Reserve. The collection of information on which to base such a plan is, however, a long process, and in the meantime certain short-term management practices have been approved, including some ride and coppice clearing. For this purpose the Conservation Corps of the Council for Nature have been asked to supply a work party at Easter 1963.

Publicity attendant upon the Hayley Appeal has not only been successful in terms of direct subscriptions of Friends of Hayley Wood (all who have subscribed £1 or more to the Appeal) but also indirectly in advertising the Trust and its activities. Experience of this, the Trust's first major fund-raising activity, stresses the fund of goodwill for nature conservation on a local level, a goodwill which can be translated, to some extent at any rate, into both work and money.

Thriplow Meadows

The Management experiment financially supported by the Nature Conservancy has continued during the year, and

is the subject of a separate report by Mrs. Crompton, (p.21), to whom the Council are indebted for her work in negotiating and in recording on the site.

Publications and Information

Miss K. B. Gingell has continued to help the Trust with clerical work, with the supply of Nature Notes to the Cambridge News, and with notes and articles on nature conservation and the Trust's activities to magazines in the East Anglian region. The Council is grateful to Miss Gingell for this excellent work, and also to the Cambridge News for its co-operation in reporting Trust activities, especially in connection with the Hayley Appeal.

Cherry Hinton Pits

During the year the City Council and its Committees have been considering the future of the 'closed' chalk pit at Cherry Hinton which is part of the area scheduled as an SSSI for its natural history interest. The Trust has expressed to the Council its desire to see this pit declared a local nature reserve, and has supported the City Education Committee in a plan to preserve it for its educational value for natural history and biology. If the Council agrees, this site could become of great importance because of its situation within the City boundary, and its excellent possibilities for education in field studies.

Coploe Hill Parish Pit, Ickleton

During the year, negotiations have been successfully carried through with the Ickleton Parish Council to protect, by means of a fence and gate, the chalk pit on Coploe Hill where dumping of rubbish was causing concern. The Trust provided the fence, and a notice-board explaining the natural history interest of the pit, and the Parish Council provided a stile, so that visitors on foot can enter, but vehicles without permission are excluded. The Council hopes that this excellent co-operation may serve as a precedent for other joint projects with Parish Councils on similar sites.

Report of the Technical and Field Committees

The Technical Committee met once during the year in March, when it was agreed to set up a sub-committee to draw up a scheme to start a grazing experiment on the Devil's Dyke. A part of the Dyke owned by Mr. Clarke has been selected, and an arrangement has been made to supply

sheep to graze it from time to time. Suitable poles for fencing may be obtained from Hayley Wood in the spring of 1963.

A general review of sites suggested that the Trust lacked control over those incorporating acid grassland, acid woodland, Alder carr or geological interest: it was agreed to give priority to acquiring control of such sites.

The Field Committee met twice. In April the supervision of the sites of interest to the Trust was redistributed amongst members. Dr. Pigott and Dr. Stanier agreed to assist, and Dr. Stanier has now taken over the sites Mr. Rowell was responsible for in S.W. Cambridgeshire. Various members have assisted in supplying accounts of sites for a Site Booklet. Little field work now remains to be done: it is hoped that the Editorial sub-committee will finish their work during 1963.

Attention of members is now being turned to private parks in the County. It is realised that there are probably a number of important areas in the County where nature is conserved by thoughtful landowners without our being aware of the interest of these sites.

Report of the Education Committee

The Education Committee, with Mr. W.E.H. Fiddian as Secretary, was re-organised during the year, and has been responsible for planning the local events in connection with National Nature Week (May 18th - 25th, 1963). By the time this Report appears, copies of the detailed programme will be available. The Week offers a unique opportunity to interest people in the value and enjoyment of natural history pursuits, and in the urgency of conservation problems. Longer-term educational problems, including the development of educational facilities in local nature reserves, will be considered by the Committee during 1963.

Work Parties

The grant for equipment received in December last year from the Council for Nature has enabled the Trust to buy a set of tools which have been effectively used at several sites during the year, notably at Barrington, Ickleton, Litlington, Comberton and Nine Wells.

Meetings

Once again a full programme of joint excursions with the Cambridge Natural History Society has been carried out (see p.13). At the Annual General Meeting held on Saturday 14th April the Anglia T.V. film 'Tomorrow may

be too late' was shown; about 60 people attended the meeting. On the morning before the A. G. M. a special excursion to Hayley Wood attracted nearly 100 people, who were most ably conducted by Dr. C. D. Pigott on a short tour of the reserve.

Growth of the National Movement

Very few counties in England and Wales are now without their County Trust, and co-ordination of the activities of Trusts is effected through the Trusts' Committee of the SPNR. A very successful inter-Trusts Conference, the second of its kind, was held in Norwich in May; a report by Mr. Fiddian, one of our delegates, is given separately on p.37. The first grants for British Conservation projects have been made by the World Wild-Life Fund; in Cambridgeshire, the National Trust Wicken Fen Committee received a grant for equipment to mechanize the harvesting of reed on the Reserve. An application for a grant for the purchase and maintenance of Hayley Wood is still outstanding.

TREASURER'S REPORT

There has been a further welcome increase in membership during the year, stimulated in part no doubt by our appeal for funds to enable the Trust to purchase Hayley Wood.

This purchase, now completed, was a well worthwhile exercise in courage and faith, supported by donors who for many and varied reasons considered it desirable that this large wood, which is of particular interest, should be preserved and cared for.

The total funds donated did not, however, despite this warm support, reach the figure we needed and we have, as a result, to pay back over the next five years a loan of £2,500 kindly made to us free of interest by the Society for the Promotion of Nature Reserves. The management, maintenance and preservation of this valuable refuge must not fall short for lack of funds, and we are therefore ready, indeed eager, to receive further donations. Subscribers and donors become Friends of Hayley Wood and we look forward to seeing their numbers multiply.

Our achievements will grow as our membership and income increases. It is again hoped that each Member will do everything possible to introduce at least one new member during the coming year.

CAMBRIDGESHIRE AND ISLE OF ELY NATURALISTS' TRUST LTD.

Income and Expenditure Account for the year ended 31st December 1962

1961	To/			1961	By/		
14	Printing, Stationery and Telephone	69 6 9			Subscriptions		
1	Publicity	2 7 0		137	270 Ordinary Members	197 13 0	
21	Postage and Sundries	48 14 7		1 138	2 Junior Members	10 0	198 3 0
7	Secretarial Assistance	20 14 1		12	Transfer from Life Membership Subscriptions		14 0 0
	Delegates' Expenses attending Conferences	11 17 0		127	Donations		66 0 3
2	Grant to the Council for Nature	2 2 0		6	Bank Interest		4 16 0
96	Conservation Expenses	101 12 10		20	Income Tax repayable on Subscriptions under Deeds of Covenant to 5th April 1962		21 0 0
5 146	Audit Fee	7 7 0	264 1 3	-	Excess of Expenditure over Income for year		53 18 0
81	Printing Annual Report for 1961	102 10 0					
6 75	Less: Sales and Contribution from Cambridge Natural History Society	8 14 0	93 16 0				
82	Excess of Income over Expenditure for year						
£303			£357 17 3	£303			£357 17 3

Hayley Wood Income and Expenditure Account for the year ended 31st December 1962

To/			By/	
Printing and Stationery	137 3 5		Subscriptions and Donations	6,454 3 10
Stamping Deeds of Covenant	5 2 4		Income Tax recoverable on Subscriptions under Deeds of Covenant	95 0 0
Postage	86 0 0	228 5 9	Bank Interest	38 18 9
Excess of Income over Expenditure for year		6,374 16 10	Rent Received	15 0 0
		£6,603 2 7		£6,603 2 7

CAMBRIDGESHIRE AND ISLE OF ELY NATURALISTS' TRUST LTD.

(Limited by Guarantee)

Balance Sheet 31st December 1962

31.12.61				
	Accumulated Fund			
70	Balance 1st January 1962	152 6 2		
82 152	Less: Excess of Expenditure over Income for the year	53 18 0	98 8 2	
	Hayley Wood Account			
-	Excess of Income over Expenditure for the year		6,374 16 10	
	Life Membership Subscriptions			
166	Balance 1st January 1962	213 10 0		
60	Received during the year	30 0 0		
226		243 10 0		
12 214	Less: Transfer to Income and Expenditure Account	14 0 0	229 10 0	
	Current Liabilities			
7	Sundry Creditors	17 11 10		
3 10	Subscriptions received in advance	4 15 0	22 6 10	
£376			£6,725 1 10	

31.12.61				
	Hayley Wood Account			
	Freehold Property at cost including Legal Charges	5,193 5 0		
	£700 5% Defence Bonds at cost	700 0 0		
	Income Tax repayable	95 0 0		
	Cash at Bankers:-			
	Current Account	140 18 1		
	Deposit Account	245 13 9	6,374 16 10	
	General Account			
11	Sundry Debtors	5 0 0		
30	Income Tax repayable	21 0 0		
	Cash at Bankers:-			
168	Current Account	152 0 0		
167 376	Deposit Account	172 5 0	350 5 0	
£376			£6,725 1 10	

Signed: J. S. L. Gilmour, Franklyn Perring — Council Members
S. Max Walters — Honorary Secretary

Auditors Certificate

We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit. In our opinion proper books of account have been kept by the Company so far as appears from our examination of those books. We have examined the above Balance Sheet and annexed Income and Expenditure Accounts which are in agreement with the books of account. In our opinion and to the best of our information and according to the explanation given us the said accounts give the information required by the Companies Act, 1948 in the manner so required and the Balance Sheet gives a true and fair view of the state of the Company's affairs as at 31st December 1962 and the Income and Expenditure Account gives a true and fair view of the Excess of Income over Expenditure for the year ended on that date.

Norwich Union Buildings,
Downing Street,
Cambridge.

1st April 1963

PETERS, ELWORTHY & MOORE

Chartered Accountants

CAMBRIDGE NATURAL HISTORY SOCIETY

President: Rev. E. A. Armstrong

Report for 1962

Six General Meetings were held in the Lent and Michaelmas terms at which the following gave talks.

Dr. M. Black	"Chalk and Deep Sea Deposits under the Electron Microscope"
Dr. F. H. Perring	"The B. S. B. I. Distribution Maps Scheme"
Mr. E. J. H. Corner	"Mount Kinabulu"
Dr. N. W. Moore	"Conservation and the Use of Toxic Chemicals"
Mr. H. H. Lamb	"Climatic Changes since the Ice Age"
Prof. J. A. Steers	"Coastal Changes in East England"

The Botanical, Zoological, Entomological, and Geological Sections continued to hold well-attended and interesting meetings.

The annual Conversazione and Exhibition, held on May 9th, was organised by Mr. Brian Gale and saw the welcome reappearance of a Schools' section of five exhibits. There were amusing exhibits as well as many interesting ones covering a very wide range.

Several successful excursions were held in conjunction with the Naturalists' Trust.

J. S. Beckett, Senior Secretary

Life Members 30/-. Annual 10/- (compounding after 4 years to Life). Undergraduate 3-year membership 12/6. Members of training colleges, annual, 5/-. Schools Corporate, annual, £1.
Application can be made to:
City: Mr. W. H. Palmer, Homerton College, Cambridge.
University: Mr. A. M. Carter, Magdalene College, Cambridge.

Speckled Wood
(Pararge egeria)

NATIONAL TRUST
WICKEN FEN LOCAL COMMITTEE

Extracts from the Report for 1961 - 62

The appointment of Colonel C. E. Mitchell as Warden-Naturalist has enabled the day-to-day running of the Fen to be far more efficiently organized.

The new Warden's House is being built on Lode Lane; when this is complete Colonel Mitchell will be able to live on the spot and his supervisory task will be much lighter.

In July 1961 the Executive Committee approved in principle an arboricide experiment to be set up on the Fen by Dr. N. W. Moore of the Nature Conservancy. Dr. Moore has kindly submitted the following account of the experiment:- 'The aim of the Nature Conservancy's experiment is to compare the efficiency of physical and chemical control of carr species (principally Frangula) in Cladium areas, and to discover whether chemical control has any undesirable side-effects on the flora and fauna. In the autumn of 1961 twelve 20 x 20 yd. plots were laid out in a rectangle at the junction of Verrall's Drove and Gardiner's Drove on strips 582 and 583, and the vegetation recorded in 240 randomly-placed quadrats. During the winter the undergrowth of 8 of the plots was burned. In 4 of these all bushes were pulled out, piled in the centre of the plot and burned. In the other 4 the bushes were cut, piled and burned, and the stumps were treated with Spontox (a mixture of the growth-regulating herbicides 2, 4-D and 2, 4, 5-T). Colonel Mitchell supervised this work and recorded the times of all operations. His records suggest that where there are many small bushes chemical treatment is not initially much faster than the physical removal of bushes; but where the carr consists of fewer and larger bushes the chemical treatment is considerably faster. During the summer of 1962 the colonisation by plants and animals of the chemically and physically cleared plots will be recorded and compared with each other, and with the situation in the 4 control plots which are being left untouched. The experimental area, in common with other areas which have been left to develop on their own, is characteristically poor in plant and animal species. The treated plots in common with other managed areas are likely to become much richer in species than the controls. By the end of the summer it should be quite clear whether or not Spontox can be safely used for scrub control at Wicken. Long-term ill effects are unlikely since Spontox is not persistent; nevertheless, records will be continued for at least two more years'.

In August 1961 a working party organised through the

Council for Nature Conservation Corps cleared scrub on Milner-White's Piece, and cleared part of an area on Strip No. 584 near Drainer's Dyke end of the Main Drove where it is hoped eventually to make a peat stratigraphy section.

During the year some new items of equipment have been obtained for the Fen, including a mobile pump and a cutter-attachment for the Auto-scythe. An application for a sum of £240 for equipment made to the World Wild Life Fund has been granted in full, and a motor is being obtained for the boats, together with extra attachments for the Auto-scythe. A start has thus been made on the mechanising of some of the maintenance work, but a good deal more will have to be spent (e.g. on a tractor) to get a satisfactory management policy working.

Miss K. E. Luck has continued her studies of the autecology of Calamagrostis on the Fen. Mr. D. Streeter has now concluded his work on the moss Acrocladium cuspidatum, and has submitted a short report on his work on the Fen.

The 'Guide to Wicken Fen', last reprinted in 1959, is nearly sold out, and a reprint of 1000 copies, including an up-to-date sketch map, is being prepared for the summer of 1962. An average of about 500 copies a year have been sold in recent years. A complete new edition of the Guide is planned for 1963.

During 1961, 3528 people were recorded in the book at the Keeper's House as visiting the Fen; this figure was made up of 2689 individual signatures, and 38 organised parties varying in number from 5 to 36. The number of visitors again constitutes a record; 3494 was the total for 1960.

Report by the Warden-Naturalist

A. Work on the Fen

The main project carried through this winter (1961-62) has been to attempt, with some success, to bring the reed field on West Adventurers' Fen into commercial use. Permission was obtained from the Swaffham Internal Drainage Board to dig a 'grip' to let the water off the reed field into the Commissioner's Drain. This was most successful, and in fourteen days all parts of West Adventurers' Fen were dry enough to permit work. The reed cutter attachment purchased for the Auto-scythe worked very well and all the most promising reed beds were cut. As the Bearded Tits were still on this part of the Fen several areas of standing reed were left. Since only small areas had been cut before, it was necessary to shake out all the old reed, which in many cases was very much more than the new reed, and to

comb out the rubbish. This entailed a great deal of extra work. About 1,700 bundles of reed were taken off this part of the Fen. When the bundles had been removed the old reed was raked up and except for those areas of standing reed kept for the Bearded Tits, the reed beds burnt off. Provided that the reed is cut regularly this extra work should not be necessary another year. On the completion of this work the ditch to the Commissioner's Drain was filled in. West Adventurers' Fen regained its old water level in well under two weeks. The growth of new reed is most promising.

A considerable amount of cleaning was done round the brick-pits. It is now possible to walk round the pits and inspect them. The paths in St. Edmund's Fen were well cut back. So, too, were the sides of the Drainer's Dyke, Cross Dyke, Malcarse and the New Dyke. The regular maintenance work on the rides was carried out.

This was a most disappointing winter so far as the burning of potential sedge fields, for future bushing-out, was concerned. The experimental plots were successfully burnt and so was a small area at the junction of Christy's Drove and the Lode. Otherwise nothing could be done. For very long periods the sedge was far too dry, and on the odd occasion when everything was not too dry there was too much wind.

The necessary work to clear the plots required for Dr. Moore's arboricide experiment was completed and the wood piles were burnt. Whatever the result of the experiment, an area of rather more than an acre will have been cleared. The part that has been cleared will make a suitable base for clearing at least another acre round its edges.

B. Produce

The heavy falls of snow did much damage to the reed, especially in the dykes, but a total of 2,300 bundles have been collected. 1961 was a most successful year for sedge as the largest field was due to be cut. 1962 will be a poor year as there is very little due to be cut. An agreement has been made with the Norfolk Reed Thatchers to sell them, at a reduced price, old sedge which would normally have been burnt or not cut at all. They are also to supply a man who will attempt to clear similar areas, paying a penny a bundle royalty. This will not bring in much income but it should help to prepare new sedge fields.

C. Bird Records

At least one Bittern (Botaurus stellaris L.) was present for most of the winter, but it did not stay into the spring. The Bearded Tits (Panurus biarmicus (L.)) were on the Mere and West Adventurers' Fen all winter, but they too have not stayed. A female Montagu's Harrier (Circus pygargus L.) was seen over the Fen on the 8th May but contrary to its usual habit stayed for only one day. On the 11th May a Tern, believed to be a White-winged Black Tern (Chlidonias leucopterus (Temminck)) spent a large part of the day over the Mere. The bird was examined through the telescope in the tower hide at comparatively short range. Tufted Duck (Aythya fuligula (L)) are nesting at the edge of the Sedge Fen, for the first time in recent years.

D. Swallow-tail Butterfly (Papilio machaon)

1961 was a poor season for the Swallow-tail. A fair number of caterpillars were found on Milner-White's Piece. In many other places Peucedanum palustre was found to be eaten, but no caterpillars were seen, and no pupae were found on Milner-White's Piece. Apart from the usual adult butterflies released by Dr. Smart only two were seen by the Fen staff.

FIELD MEETINGS IN 1962

Ten field meetings were held jointly with the Cambridge Natural History Society. (Approximate numbers attending each meeting are given in brackets).

Saturday, April 7th. Wild Daffodil Woods at Whittlesford (30)

The first excursion this year was to the woods in Whittlesford by permission of Messrs. Edward Towgood and Sons.

Despite the cold, grey and windy day, a party of 30 which included a distinguished visitor, Professor Pawlowski, from Poland, met outside the "Bees in the Wall".

The earliest record of wild daffodils in Whittlesford is in the beginning of the eighteenth century, by Professor Martyn, and there have been continuous records since then. Mrs. Crompton showed a copy of the map made by the Whittlesford naturalist, G. N. Maynard, in 1844. This showed localities for the daffodils and other interesting plants.

When everyone had arrived - by bus, car, foot and bicycle - the party walked through the two woods where the daffodils are still abundant.

In spite of the late spring, they were just in flower and were indeed a spectacular sight for this part of the country.

The woods are now very wet with many large pools of water, streams and ditches, but had been perhaps better drained at the time they had been planted, for there were still a few pine and box among the tall grey poplars and alders.

Nothing else was in flower except for a few sweet violets and primroses and the large golden catkins of the Goat Willow, Salix caprea.

A few members of the party went on to another locality for daffodils as shown on Maynard's map - this small wood is now completely carpeted by the broad leaves of Ramsons Allium ursinum.

The only other locality for Ramsons in this part of the county was destroyed when the new Whittlesford by-pass was made.

Saturday, May 5th. Great Widgham Wood (38)

Great Widgham Wood is on the Suffolk boundary of Cambridgeshire. A large party of naturalists met in pleasant weather at Longacre Green, Great Bradley, and under the guidance of Mr. J. W. Clarke and Dr. A. S. Watt set out to explore the wood. Inside the wood Dr. Watt gave a short talk explaining the woodland ecology and former management of boulder-clay woods. Great Widgham is leased and managed by the Forestry Commission, who kindly granted permission for the visit. Although the wood has been felled and replanted with conifers, the coppice wood has been left and the typical ground flora of a boulder-clay wood remains unchanged.

As the naturalists walked through the wood they were delighted with the beautiful carpet of Oxlips (Primula elatior) and Wood violets (Viola riviniana), which were flowering in profusion. Other plants which aroused great interest were Herb Paris (Paris quadrifolia) and Water Avens (Geum rivale). Both the Wild Strawberry (Fragaria vesca) and the Barren Strawberry (Potentilla sterilis) were seen, amongst many other plants characteristic of boulder-clay woods. A picnic tea was enjoyed in the heart of the wood in beautiful sylvan surroundings, after which the party wandered back across the wood to disperse - well pleased with their visit to Widgham.

Saturday, June 2nd. Croydon Hill (30)

The party met at Croydon Hill and spent a pleasant afternoon under the guidance of Mr. W. H. Palmer and Mr. C. E. Tottenham, seeking roadside grasses and insects.

Hayley Wood being near by, most of the party visited it also.

Croydon Hill is one of many parts of Cambridgeshire which have tended to be neglected by students of natural history. No particular rarities were found, but some 20 species of grasses were identified, as were a number of beetles which previously had not been recorded in the area.

Between stooping to look for and at grasses, insects, snails and bryophytes, members of the party had an attractive view from the top of the hill.

During the afternoon three species of orchids, and Hairy Woodrush (Luzula pilosa) - fairly uncommon in the county - and the apparently fresh spoors of deer in Hayley Wood were also found.

The most attractive find of the afternoon, also in the wood, was perhaps a large, closely growing clump of Bluebells, and Stitchwort, a mixture of blue and white.

Sunday, June 24th. Peakirk Waterfowl Gardens, Crowland Abbey, etc. (80)

Joint excursion with the Cambridgeshire Local History Council.

This excursion was supported by about 20 Trust members and some 60 Local History Council members. At Peakirk the Curator, Mr. Dudley, was unfortunately not available, so Mr. A. E. Vine guided the party round the enclosures at the Waterfowl Gardens. After a picnic lunch Mr. P. G. M. Dickinson led the party to Deeping St. James Church, Crowland Abbey and Thorney Abbey, in each case being supported by the respective clergy in describing the historical interest of their churches. Before visiting Thorney Abbey the party had tea at the Rose and Crown, Thorney.

Saturday, June 30th. Orchid Count at Thriplow Meadow (25)

Members and friends met at Thriplow Farm to repeat the counting of marsh orchids present in the Trust's experimental meadow, in the same manner as last year.

The meadow has now been fenced into four equal strips and, with a grant from the Nature Conservancy, the Trust has undertaken a five-year experiment on the effects on the marsh-orchid population of different types of management - grazing by cows, grazing by horses, and yearly cutting. A total of over 2,600 orchids was counted in three of the four strips.

In spite of the recent very dry weather and the very late frosts, which damaged many orchids and other plants in the meadow, the orchids were as abundant as before.

This year, however, the almost uniform rich dark purple colour of the marsh orchid, Dactylorchis praetermissa, was very striking. Last year there had been a great range of colour from light to dark purple.

The early marsh orchid, Dactylorchis incarnata, this year was still in flower and members were able to note the differences between the two species.

Also seen were some large hybrid plants of D. praetermissa x fuchsii (the common marsh orchid with heavily spotted leaves).

New species found since last year's visit were shown by Mrs. Crompton - the Adder's Tongue fern, Ophioglossum vulgatum, the uncommon honeysuckle, Lonicera caprifolium, and Carex nigra, a sedge rare in the county.

Tea was taken in an adjoining meadow, also carpeted with orchids, and a large plant of the extremely rare pure white form of D. praetermissa was admired and photographed.

Saturday, July 7th. Bartlow Hills and Hildersham Furze Hills and Water Meadows (50)

Joint excursion with the Essex Field Club.

About 40 members of the Essex Field Club and Cambridgeshire Naturalists met at Bartlow Station on Saturday morning for a joint excursion.

The weather was warm and sunny for the whole day. The first stop was made at the Church of St. Mary, Bartlow, which is built mainly of flint and has one of the two circular Norman towers in Cambridgeshire.

To many members the most interesting feature was the very long ladder made of rough wood and thought to be 700 years old, leading up into the belfry. Also admired were the 15th-century wall paintings.

The walk was continued along the road leading to Shudy Camps and then down the track to the River Bourne, which in this area is completely dry and, judging by the amount of vegetation in the river bed, has not seen running water for some time. The party then followed the path leading back to the Bartlow Hills, accompanied by the clear calls of a Black-cap.

It is interesting to recall that these hills, which are the finest Romano-British burial mounds in Britain, were excavated between 1832 and 1840. The trophies from these graves were deposited at Easton Lodge, where they perished in the fire of 1847.

The largest hill is 40 ft. high and about 145 ft. in diameter and the more energetic members climbed to the top. Lunch was taken near by and then the party moved on to the Furze Hills near Hildersham, where Mr. Chapman, the

morning's leader, handed over to Mr. Faulkner, who was waiting to greet the party with 20 more members from Cambridgeshire.

The Furze Hills are of great botanical interest. A great depth of sand covers the chalk and provides acid soil conditions that are unique in the county. The range of species displayed is very similar to those found on the Breckland Heaths.

Extensive quarrying on the largest of the three hills has left large areas of bare sand and in places the underlying chalk has been exposed, but work has now ceased and re-colonisation of the disturbed soil is being watched with great interest.

Some of the rare species seen were Annual Knawel, Corn Spurrey, Soft Trefoil, and the tiny-flowered Bird's Foot. On the undisturbed outer bank, Dropwort and a fine stand of the large uncommon Scotch Thistle were very striking.

The other two hills, still retaining their ancient turf, were bright with patches of Dyer's Greenweed, Rockrose and Thyme. Great interest was shown in the rare Catstail grass Phleum phleoides, and in the beautiful Maiden Pink.

Also admired were robust specimens of the parasitic Tall Broomrape. Cornfield margins provided a number of interesting plants, including some less common Poppies and Fumitories. Sickle Medic was identified, together with the hybrid between that plant and its near relative, Lucerne.

After tea the party moved to the water meadows and alder carr by the Bourne River, where there was a good variety of sedge and rush species. A splendid sight was an epiphytic Dog Rose in a dead pollarded willow, the tree festooned with white flowers to a height of perhaps 20 feet.

These visits were made with the permission of Mr. A. E. Allen, on whose farm in Hildersham they lie.

Saturday, August 11th. Harlton and Haslingfield Chalk Pits (35)

Cambridgeshire naturalists have recently devoted a good deal of time and energy to the rehabilitation of several disused chalk-pits, with the object of establishing them as places of natural-history interest.

Members visited two pits which are in need of no such rescue operation, and which demonstrate admirably how well worth while the preservation of such sites can be.

The first, at Harlton, long disused as a source of chalk, is now well covered with vegetation, partly natural, partly planted, and mature beeches and horse-chestnuts form a close canopy high above the network of pleasant paths

which wind up the steeply sloping sides of the pit.

Here, under the guidance of Dr. Donald Pigott, several shade-loving grasses were identified and examined.

At teatime, the party enjoyed the hospitality of Dr. and Mrs. Pigott at their Harlton home, and afterwards were able to see a number of plants growing in the garden there under experimental conditions.

These included the Cambridgeshire rarity, Tuberous Thistle, and also some dwarf forms of the common cornfield weed, Corn parsley.

The evening was spent at Orwell pit, where grazing over many years has effectively prevented any dominance by shrubs or trees and maintained a turf of short grasses with an abundance of colourful wild flowers.

A noticeable feature was the profusion of Restharrow. Both species of this plant were here growing side by side. Ononis spinosa, which is armed with long sharp prickles, and Ononis repens, which is without these, and members of the party were soon searching for intermediate forms which might be of hybrid origin, but without success.

Similarly, two species of Wild Thyme were shown growing together on this site, and detailed examination of a number of plants was made.

Those interested in geology of the site examined the thin layer of boulder clay that covers the chalk and is exposed at the quarry face. Several minerals were identified, including, rather unexpectedly, small grains of coal.

As a background to this kind of examination in detail, waving heads of wild carrot and Burnet Saxifrage, pink masses of Restharrow, and broad carpet patterns of wild thyme and Squinancywort were all displayed.

Saturday, August 25th. Wicken Fen (25)

The annual visit to Wicken Fen was led by the Warden, Col. Mitchell, who in a short introductory talk described some of the problems in restoring Wicken to a sedge-reed fen, and then conserving it.

Shortage of labour and money made both tasks very difficult.

The Alder Buckthorn (Frangula alnus), which had colonised most of the fen, had to be cleared, water had to be pumped into the fen to restore the old level and an economic method of cutting the sedge every four years had to be found.

During a walk round the fen, members were shown some of the work that had been done in the past year.

The brick pits near the windmill had been cleared of reeds and the scrub removed so that it was now possible to walk round clear water. Drainer's Dyke had been cleared

of the choking reeds across which one could walk last year. There was now a good depth of clear water into which more water can be pumped to raise the level of the fen.

The results of a successful experiment in cutting the sedge with a motor scythe were seen and on the pile of cut sedge a magnificent Emperor moth caterpillar was found.

A member of the Nature Conservancy, who is conducting the arboricide experiment to kill the Frangula, showed members the plots where the trials were taking place. So far there is no evidence that the hormone used was harmful to the associated flora or fauna, but further checks are being undertaken to make certain that a widespread application will be safe. Col. Mitchell then showed that removing the Frangula by hand was very hard slow work.

Few birds were seen but members were shown a caterpillar of the Swallowtail butterfly on Peucedanum palustre. Also seen were the Sweet Gale and the Marsh Fern (Thelypteris palustris), both rare plants in the country, and the tall, late-summer-flowering plants of marsh and fen - Purple Loose-strife and Yellow Loose-strife, Meadowsweet and Angelica. In the water were white Waterlilies and the yellow flowers of the Bladderwort.

Tea was taken on a large flat-bottomed boat moored on the lode.

Col. Mitchell said he hoped next year to be able to take members to the rarely-visited top end of the fen in this boat pulled by a small boat with a motor.

Saturday, September 8th. Earith (40)

The September excursion took place in ideal weather at Earith, where members looked at marsh and water plants under the guidance of Dr. S. M. Walters.

They first explored, with permission from the River Board, the banks and ditches upstream of Earith Bridge, where such a rich variety of plants was found that the party moved only very slowly.

Among the many interesting species found by the river and in the ditches were the Flowering Rush (Butomus umbellatus) and the Sweet Flag (Acorus calamus) and on the mud and clay dredged from the river the Burmarigold (Bidens tripartita) and a bewildering variety of "weeds" belonging to the Dock and Goosefoot families.

At about 4.30 the party returned to the Isle of Ely side of the bridge to eat their tea on the bank overlooking the wash-land between the two Bedford rivers.

A short visit was paid across the Hunts. border, where a careful search of a stone embankment for the rare Least Lettuce (Lactuca saligna) was not successful. Only the common species (Lactuca serriola) was found there.

The naturalists had, however, the compensation of seeing plenty of flowers on the so-called Fringed Water-Lily (Nymphoides peltatum), a beautiful water plant which is such a feature of some of our fenland waterways.

The party returned via "the Bulwark", an earthwork on the washlands which is the site of a fort in Cromwellian times.

Saturday, October 6th. Brandon Park. (40)

The annual Fungus Foray was held in Brandon Park. About 40 members and friends met in perfect weather, including a large number of children, doubtless attracted by the announcement that Miss Gingell had kindly offered a prize for the largest collection of fungi made by a school child during the afternoon. Led by Mr. E. J. H. Corner, the party wandered between the conifers and along the sunlit rides. The fungi were numerous and in excellent condition and some interesting finds were made. Around old stumps, particularly in cleared areas, Calocera viscosa was frequent. Morphologically this resembles the more familiar Clavaria, but it is less fleshy and becomes horny when dry.

A small and very beautiful fungus of which only few specimens occurred was Stropharia aeruginosa - the cap is a metallic blue when young as it is covered by a sticky azure-blue pellicle. There were occasional patches of one of the slime-fungi Tubifera ferruginosa, attractive perhaps to the keen mycologist but not to the gourmet who was more enthusiastic about quantities of Collybia maculata, which with its compact white flesh makes a pleasing dish when fried in butter.

The collections of fungi were judged by Mr. Corner and Mr. W. H. Palmer. The standard was very high, but after lengthy deliberation the prize, a book on mushrooms and toadstools, was awarded to Miss R. Wiard, whose basket contained 22 different species.

The vivid colouring of the fungi laid out on the warm brown carpet of pine-needles with the brilliant sun filtering through the trees, helped to make this one of the most memorable and attractive excursions for a long time.

THRIPLOW MEADOW GRAZING EXPERIMENT: II

by
G. Crompton

The setting up of the experiment was described in last year's Journal. An account of the management problems and collection of data follows.

When the experiment was set up it was decided that horses should graze Strip I at the north end of the meadow and cows Strip IV at the south end. (A plan of the meadow is in last year's Journal). This arrangement worked quite successfully last year, the animals having unlimited access from the adjoining meadows. However, owing to a shortage of suitable grazing meadows this year, it was not possible to move cows into the meadow adjoining Strip IV. In order not to lose an entire year's grazing it was decided to lay on water in Strip IV, enabling the cows to be shut into their Strip. The nearest water was only one hundred yards away and the work of laying a pipe and erecting a trough was carried out successfully in the week of October 1.

Some of the fencing posts between Strips I and II had become loose and these were made good. Also three more strands of barbed wire had to be put along the fences between the quadrats to prevent the animals from continuing to graze through the fence. In August most unfortunately one of the mares in Strip I was presumably chased into the corner and broke a fencing post and the barbed wire, thereby cutting herself badly. The fence was repaired and also the small group of apple trees in the corner was fenced off to prevent the horses from eating too many apples.

On August 2 Strip II was cut by a tractor-driven mower but the dense tufts of grass repeatedly broke the machine and cutting by this method was stopped after about 2/3 of the Strip had been cut. On August 22 the remaining 1/3 was cut by the same rotary cutter that did the cutting last year. The whole Strip was then raked and the hay and the grass removed to under the elm trees. The whole Strip was then cut again. Unfortunately instructions were misunderstood and a belt of about 10 yards was also cut all around Strip I (Horses). This cut the small willow trees in the belt. The cuttings were removed to under the apple trees.

One afternoon three small piglets were found in Strip I and another time a heifer was found in the corner of Strip III (control). Both visits were of short duration!

No systematic recording of birds was made this year. Snipe and redshank nested in the adjoining meadows. Birds and animals seen in the meadow included snipe, reed-

buntings, gold-finches, wrens, partridges, pheasants, and moorhens; grass-snakes, moles, hares, and a rabbit.

Grazing

Strip I 2 Mares by unlimited access from adjoining meadow.
3 May - 24 August; 28 September - 6 November.

Strip IV 11 Heifers (shut into strip)
10 October - 30 October

Orchid Count

On June 30th 20 members of the Trust, under the direction of Mr. P. J. Bourne, counted the marsh orchids present, in the same manner as last year.

	1962	1961
Strip I	1,516	1,047
Strip II	409	486
Strip III	not counted	693
Strip IV	716	250 (estimate)

Quadrats

The species present in the four quadrats were recorded between July 6 and 17 in the same manner as last year. Mr. David Chamberlain kindly helped with the work and also with the setting up of a small experiment in an adjoining meadow. This hopes to show what happens to the marsh orchids if they are picked with all their leaves while in flower. A triangular plot was staked, 63 x 53 x 85 in. All the orchids present were mapped on graph paper. Dactylorchis praetermissa, 13 flowering and 7 seedling; D. incarnata, 2 flowering and 2 seedling. Then all the flowering stems were pulled in the manner of picking bluebells.

New species found in the meadow in 1963

One 10 ft. tree of Quercus growing in a pollarded Salix alba, about 8' from the ground. Ophioglossum vulgatum in Strips I, II, III. Carex nigra abundant in a wet hollow in Strip IV. (About five years ago Eleocharis palustris spp. palustris was dominant here). In June Mr. Milne Redhead and Mr. Summerhayes came to visit the meadows. Mr. Milne Redhead found Glyceria plicata in Strip I and Mr. Summer-

hayes thought that some of the orchids with very heavily blotched leaves might be Dactylorchis fuchsii x praetermissa. Also found were Rosa tomentosa and Agropyron caninum. This brings the total number of species present in the meadow to 152.

Water level

Weekly readings have continued. The water-table only came to near ground level at the beginning of January and remained in this region until the middle of May, when it fell very sharply. By the beginning of July it had dropped to -72 cms., the lowest reading since recording was started in 1958. The "wet hollows" were considerably drier than last year. A rough survey was made on September 13 and some had so changed their dominant species that with no water lying in them they were very difficult to find.

There was a late series of frosts which ended on June 2. This coincided with a drought from the end of May to the beginning of July, when no rain fell. The following species were noted as having been affected by the late frost, their leaves looking brown and shrivelled on June 5. Dactylorchis spp., Equisetum palustre and E. arvense, Rumex acetosa, Pulicaria dysenterica, Centaurea nigra, Lathyrus pratensis, Listera ovata, Lotus uliginosus, Carex distans, C. flacca, Ajuga reptans and young shoots of Salix cinerea. The most affected seemed to be both species of Equisetum. Both Equisetum species appear to be more abundant in the meadow this year, occurring in those areas which used to be wetter. Although at the beginning of June, when Dactylorchis incarnata started to flower, it looked as though there would be few D. praetermissa this year, the population in the whole area seemed to catch up from the late start, and flowered abundantly as usual around July 1.

Grazing and cutting effects by November 1962

Strip I. The grazing by the two mares over five months has been very uneven, but they have had some Carex acutiformis, Juncus inflexus and Filipendula ulmaria. After the accidental cutting in the Strip they tended to graze in the cut part only and this has made the cut area still very noticeable. The heifers in Strip IV had only 20 days of very concentrated grazing, in which time they flattened the strip. Though they did not eat all the Carex acutiformis, they flattened it by trampling. However, they did not touch Juncus inflexus. The cut Strip II appears by contrast very green and lush and it looks as though species of grass have increased considerably. The control Strip III looks like a jungle.

THE INSECTS OF THRIPLOW MEADOWS

A. C. Warne

Since April last year I have visited the wet meadows several times to collect beetles (Coleoptera); and I have also made two surveys of the distribution of insect families, one on the distribution of insects in each section of the field, and the other on the insects found on the dominant vegetation.

The first survey was made by taking a random sample of insects from each of the four sections of the field (see map in 1961 report, Nature in Cambridgeshire 5:23 (1962)) by making 200 "sweeps". (A sweep is a brushing action of a net through the vegetation). All the insects taken were counted.

Section I was notable for having a larger number of families present than the other sections, but it had no group particularly notable either by its presence or by its absence. There were several flower-loving insects like pollen beetles (Nitidulidae), thrips (Thysanoptera) and hover flies (Syrphidae).

Section II, the cut section, had low numbers of most families. There were almost no Aphidae, which in the other sections were taken in large numbers. There were no Miridae and very few of the flower-loving species. The exception was the large number of small black flies (Muscidae).

Section III had large numbers of Aphidae and Miridae: of the flower-loving Nitidulidae, Syrphidae and Thysanoptera; and of the small flies Scatopsidae, that inhabitat decaying vegetation, in which this area is particularly rich because of the thick mass of Carex.

Section IV had fair numbers of the flower-inhabiting species and there were also some muck flies (Corclyluridae), presumably interested in the decaying vegetation or cow dung.

Hoppers (Jassidae and Cercopidae), ichneumon flies (Ichneumonidae) and chalcid wasps (Chalcidae), appeared to have an even distribution over the meadow.

The second survey, made in September, was made by taking 50 sweeps in areas of dominant vegetation. The areas of Carex, Juncus, Grass and Filipendula ulmaria as shown in the map in the 1961 report were swept and also the area where Dactylorchis spp. were dominant, which was at the time covered with devil's bit scabious (Succisa pratensis). Time permitted only the counting of selected families of insects.

On the Carex were large numbers of Psammoecus bipunctatus, and also grass moths (Crambidae), neither of which was found in any other area. Large numbers of hoppers (Jassidae and Cercopidae) were also found.

On the Filipendula ulmaria there was no family of insects that was particularly prolific.

The scabious was in full flower and there were therefore large numbers of Humble bees and Honey bees (Apidae) in this area. There were also pollen beetles (Nitidulidae) and ladybirds (Coccinellidae); there were very few hoppers.

The Juncus area had, generally speaking, very few insects on it; but there were several plant bugs (Pentatomidae and Miridae) and hoppers.

The grass area had several weevils (Curculionidae) and large numbers of hoppers. There were very few plant-sucking bugs.

The Carex area was outstanding for the large number of hoppers and Psammoecus bipunctatus it produced. The whole area was shown to be well populated with hoppers since all the areas except the scabious had fair or large numbers.

About 85 different species of Coleoptera have been collected since April, and of these 70 have been named. The beetles are divided into several distinct groups according to their food. Many species were found in the dung in sections I and IV; others were found in dead birds, others on particular plants, and one species in rotten wood.

Only a small proportion, 15%, of those named are recognised as beetles that prefer damp meadows, whereas 50% are dung and carrion-feeders. Among the carrion-feeders are Necrophorus vestigator and N. vespilla (both species are about 1 inch long), yet two of the former and one of the latter were found on the same dead bank vole. Thanotophilus rugosus was about the most common carrion-feeder found and it obviously bred quickly on dead pigeons.

The beetles feeding on dung were mostly small, with the exception of Geotrupes stercorarius, of which 9 were collected in an afternoon. There were many hundreds of small staphylinid beetles in the dung, mainly Omalim rivulure, Tachinus laticollis and Oxytelus rugosus.

Of the plant specific beetles two are species that prefer nettles, Phyllobius urticae and Cidnorrhincus 4-maculatus, one, Grypidius equiseti, lives on common and marsh horsetail, and one, Crepidocera transversa, lives on thistles. The rotten log in section II of the field showed evidence of burrowing by Dorcus parellelopipedus, the lesser stag beetle.

Four pitfall traps were set up which took large numbers of Feronia niger, a powerful and fast-moving ground beetle. Two other species of Feronia were found, F. nigrita and

F. vernalis, both smaller species than F. niger.

Of the 85 species of coleoptera collected 25 are Staphylinidae, 9 Curculionidae and 9 Carabidae.

It is hoped that this list of beetles will be increased and that lists of other orders will be made during 1963.

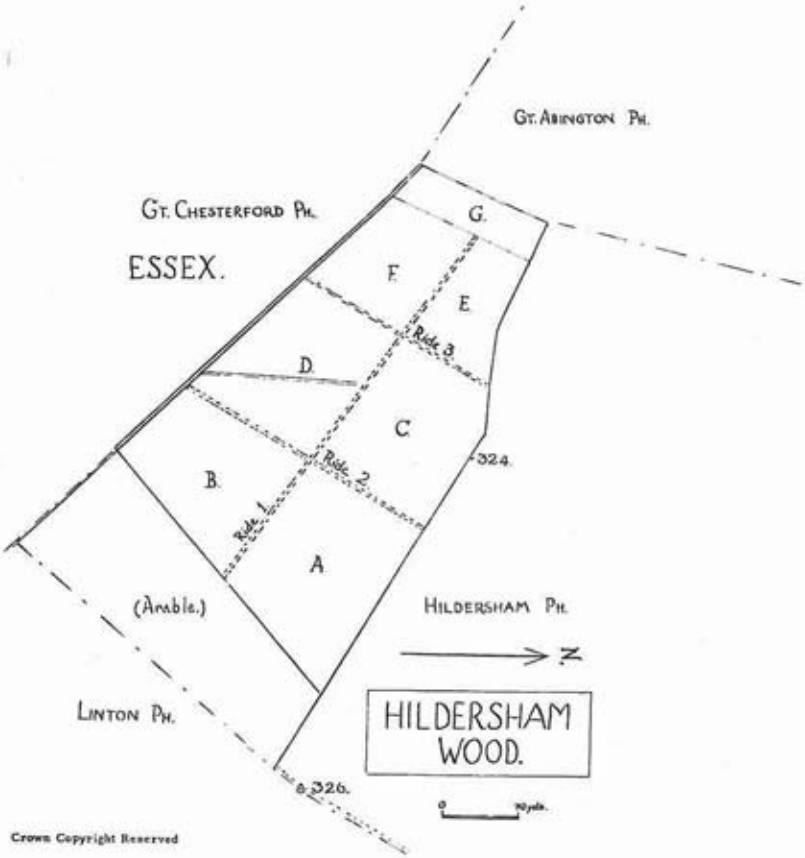
HILDERSHAM WOOD

A Botanical Survey

The parish of Hildersham lies across the valley of the Bourne River as a three-mile wedge of mainly arable land, its broader end following the line of the Roman Road, and its narrower end reaching southwards to the Cambridgeshire - Essex border. The parish is almost unique in the varied habitats to be found within so small an area, and this diversity is reflected in the profusion of plant life which can be seen there and in the number of rarities that have been recorded.

At the southern end of the parish there is deep boulder clay carrying a small oakwood of something under twenty acres. It is well worth the effort of walking up to this rather remote corner of the county, if only for the view, which is among the best we have. Certainly a more distant glimpse of the white roofs of Ely Cathedral would be hard to find. But the area holds special delights for the botanist. He will find, within and around the wood, month by month, a succession of exciting discoveries and absorbing problems, for this is in no sense a typical oakwood.

The clay here is deep, stiff, and wetter than average, so that in a wet year fields in the vicinity may prove unworkable and carry no crop for a season. Harvest often tarries well into October and a rainy Autumn may result in heavy loss of grain. Over the area of the wood there is little gradient, with consequently very limited run-off. A spot height of 326 feet marks the highest point near the eastern corner, which is also the most convenient point of access. From here, there is a barely perceptible fall to the west, probably no more than ten feet in a distance of a quarter of a mile. Both the eastern and western ends of the wood seem relatively drier than the centre, and friable, loamy soil showing good crumb structure covers the clay to a depth of several inches. The main ride along the centre of the wood is almost bare clay with gleying almost from the surface. Water is visible in ruts and hoof marks for much of the year, except in prolonged dry seasons. A drainage ditch running southwards from the centre of the



wood towards an outfall on the south-west boundary usually carries only shallow pools of stagnant water.

This boundary, which is also the county boundary with Essex, is of some interest. It takes the form of a shallow trench, up to ten feet wide in places with, on the inside, a raised bank of considerable width. Bearing in mind its alignment with Brent Ditch, one might guess that it was a continuation of that ancient earthwork. Most of it is densely overgrown with shrubs, among which Prunus spinosa is dominant.

A central ride and two cross-rides traverse the wood, dividing it into sections which are convenient for reference. (See map). Ride 3 is heavily overgrown, and in places impassable. Rides 1 and 2 were cleared by means of a bulldozer during 1961, with considerable disturbance of the surface soil. A shallow ditch and bank running

parallel to the western end appears to be an earlier boundary, and the additional area seems to be of more recent origin, containing elm and sycamore.

The wood is of oak-hazel coppice-with-standards type, though any systematic felling and coppicing must have been discontinued many years ago. There is evidence of some selective felling, probably fifteen to twenty years ago, but in general it is densely overgrown with a good deal of fallen and derelict timber, particularly in the wetter areas. More open woodland, with evenly-grown standards, a close canopy, and patchy herb layer, is found along the outer portions of sections B and D. Ash is not plentiful except in areas A and B, which are drier.

The shrub layer over most of the wood is predominantly Corylus avellana, except for an area along the north side in sections A and C where Prunus spinosa reaches thicket density. There is scattered Crataegus monogyna, and also some evidence of C. oxyacanthoides, , the so-called Midland Hawthorn. Plants can be seen which have shallow-lobed leaves, corymbs with quite few large flowers, and many fruits having two stones. There is much Lonicera periclymenum giving extensive ground cover, and also climbing well into the shrub layer, whilst Clematis vitalba stems hang from the tallest trees. Large areas of Rubus spp. - principally R. caesius - make walking difficult. Of some interest to specialists in this complex genus are R. radula, which is more common in the Midlands and North, and R. rufescens. Rosa canina and R. arvensis are scattered throughout the wood, and one species uncommon in the county, R. tomentosa, has been recorded.

A noticeable feature of the wood is the absence of species which are common in other oakwoods of the region, as well as the occurrence of a number of rarities. In particular, the habitat seems well suited to Primula elatior, which is plentiful not far away in Balsham Wood. But there is no sign of it here. P. vulgaris is scattered rather sparsely in the drier parts, but is seldom found far from the margins. P. veris grows along the outskirts and along hedgebanks in the neighbourhood, and some very attractive examples of their hybrids can be seen. Mercurialis perennis is almost confined to section B, though in nearby belts of trees it is dominant, giving 100% cover over large areas. Although the wood has the local name of 'Bluebell Wood', Endymion non-scriptus is only patchy and mainly confined to sections A, B and D. Geum rivale, which might be expected here, is absent, as it is from most other Cambridgeshire oakwoods.

One of the great joys of this wood is its range of orchids, and indeed, throughout the season from April to September there is a very good chance of finding one or

other of seven different species in bloom. Orchis mascula is sometimes plentiful in Areas A, B and D, and when seen in company with bluebell, primrose, bugle and sanicle, the display of colour is delightful. Platanthera chlorantha is notoriously erratic in its appearance, but it flowers in great profusion from time to time in Section A. Then several years may pass when it is hard to find a single plant, in bloom or in leaf. Neottia nidus-avis can be found, usually in deep shade under close hazel cover. This saprophytic orchid is easily overlooked for it is entirely brown, with leaves reduced to rudimentary scales. Its common name, Bird's Nest Orchid, refers to its tangled mass of thick fleshy roots, infected with mycorrhiza, which enable it to extract nutrients from partially decayed vegetable matter, dispensing with the strong light and chlorophyll necessary for photosynthesis of carbohydrates. O. fuchsii is not common, occurring mainly along Ride 1. It will be interesting to see whether the reduced cover of Filipendula ulmaria following the Ride clearance mentioned above will foster any increase in the numbers of this species. Listera ovata is likewise infrequent, isolated plants appearing near rides.

Of special interest late in the season are two helleborines which are extremely rare in the county. Epipactis helleborine was found and photographed in August 1960, but has not been seen since. Two stations were recorded, one near the centre of section D, and the other at the southern end of Ride 2, on the very edge of the Ride. The latter station was seriously disturbed by clearance in the following year. A new record for the county here is Epipactis purpurata, found in September 1962. About twenty fine spikes of flower were seen, mainly in area D about the ditch, but with isolated specimens in area B. It is the latest of the woodland orchids, and though dull in colour, with pale yellowish-green flowers and a faint tinge of purple on the leaves, it is slender and graceful with a dense cylindrical spike of great charm. A typical, well-established plant produces flowering stems in twos or threes. Its fleshy roots have been known to penetrate to the astonishing depth of three feet, and its usual habitat is, as here, on deep boulder clay overlying the chalk. All adjacent counties have recorded this species, and it is surprising that one so well botanized as this for some three centuries should have missed it until now.

Ferns more than any other plant add charm to the general appearance of an oakwood, but here they are in no way spectacular. There are some well-grown clumps in sections C and D, mainly of Dryopteris filix-mas, with occasional D. austriaca. Lady Fern, Athyrium filix femina, has also been recorded.

As might be expected, the central wet area shows a number of interesting sedges. Near the intersection of Rides 1 and 2, Carex pendula, C. pallescens, and C. ovalis have been recorded, the latter having only one other known station in the county. C. sylvatica is also seen, in the somewhat drier parts.

A plant which should not be missed is the fragrant Sweet Woodruff, Asperula odorata, which grows conveniently near the main ride in area D. In the same area also one may find small isolated patches of Paris quadrifolia.

A puzzling feature of great interest is the presence of a small number of oaks displaying some of the characteristics of Quercus petraea, the Durmast Oak. One specimen in particular is very distinctive. This species is virtually absent from many calcareous soils, and is common only on acid sands and in the wetter siliceous areas of North and West Britain. However, this is not the only indication of a possibly lower degree of alkalinity than one would expect on the boulder clay here. Among a collection of bryophytes collected at random by a novice in this branch of botany, (the Author!) Dr. Whitehouse disentangled and identified a single plant of Polytrichum formosum, a moss which has a similar distribution, and is frequently associated with Q. petraea. Then, only a short distance away, but on the Essex side of the border, Stachys arvensis is plentiful in an arable field. This also demands a non-calcareous soil and is rare in the South-East. Potentilla erecta, which is found in the wet central area of the wood, also prefers light acid soils to situations such as this appears to be. It would seem therefore that a systematic soil analysis carried out over the area involved, and correlated with the observed plant distribution, might yield further useful information.

Finally, it should be stressed that the interest which this wood now holds for naturalists arises largely from the fact that it has remained so long free from the effects of extensive sylviculture. Its comparative inaccessibility and relatively small area weigh heavily against the sort of development which has changed the whole nature of so many of our oakwoods. Selective felling and coppicing could of course add further scientific interest by the creation of a more diversified environment, but any scheme of economic forestry involving extensive replanting with conifers would prove disastrous to the existing flora. In this event, it would be helpful if areas along the main ride, and portions of sections A, B and D, could be set aside as plots where continued observation and investigation could proceed.

Naturalists are grateful to the owner of the wood, Mr. Cecil Binney, for his interest in its Natural History,

and for his readiness to allow visits by organized parties. The author wishes to acknowledge gratefully the privileges extended to him over many years.

THE BUTTERFLIES OF CAMBRIDGESHIRE

by

B. O. C. Gardiner

It is over a quarter of a century since the Lepidoptera of Cambridgeshire were reviewed by Fryer and Edelsten in the Victoria County History of Cambridgeshire and the Isle of Ely. Since then many changes have taken place. With respect to the butterflies this has generally been for the worse, the general impression being that they are becoming much scarcer.

Cambridgeshire contains the celebrated nature reserves of Wicken and Chippenham Fens. These have tended to attract the majority of collectors to the detriment of recording in the rest of the County, although this does not apply to the butterflies to the same extent as to the moths.

The general scarcity of butterflies in recent years is undoubtedly due to a number of factors. This is a process that has been going on for nearly two centuries; the earlier extinctions were of species generally rare in the country as a whole and perhaps at the northern limit of their range. Some of the others, such as the Comma butterfly, have since returned to the County.

The extinction of the Large copper could well be accounted for by the drainage of its habitat. The present decline of other species must, surely, in part be due to the constant "tidying up" of land that goes on, the ever-increasing spread of urban areas, the cutting down of hedgerows, and, perhaps above all, the constant drench of poisonous chemicals not only to kill insect pests but also to destroy the wild plants of the hedgerows on which so many harmless and useful insects are dependent.

The list of butterflies below is divided into three sections. Firstly, there are resident species which have been with us a long time and have been seen within the last five years. Secondly, there are those species of uncertain status, recorded up to 1936, not recorded since. These are particularly worth looking out for. Thirdly, there are the species not recorded for 40-50 years and clearly extinct in the County.

The English names and arrangement used are accord-

ing to South, the scientific names according to Kloet and Hincks. This paper is the second in a series reviewing the Lepidoptera of Cambridgeshire. The first paper, dealing with the Pyraloidea (Gardiner 1961), contains information about previous lists and details of localities worked.

I should like to thank all those, too numerous to mention individually, who have sent me lists of their captures and observations, without whose help the present compilation would not have been possible.

1. SPECIES KNOWN TO BE RESIDENT IN THE COUNTY

The Swallowtail (Papilio machaon L.)

A century or more ago it used to occur over most of the County, but owing to drainage works it became confined to Wicken Fen. It finally became extinct there about ten years ago but has since been successfully re-introduced. (See cover photograph).

The Large white (Pieris brassicae (L.))

This used to be a common and widespread butterfly, often a great pest on cabbages. In 1955 the larvae were attacked by a virus disease which decimated the population and it has been much scarcer in the past few years.

The Small white (Pieris rapae (L.))

Common and widespread, often a pest on cabbages. Although it was attacked by the same virus as the above, its numbers do not seem to have been so greatly reduced.

The Green-veined white (Pieris napi (L.))

This species is still reasonably common and widespread. It prefers damper and shadier situations than either of the above two species.

The Orange tip (Euchloë cardamines (L.))

Still fairly widely distributed but not as common as it was 10-20 years ago.

The Clouded yellow (Colias croceus (Geoff.))

This species does not survive our winter and its appearance in the County depends solely on migration. It was last common in 1947 but specimens have been seen several times more recently.

The Pale Clouded yellow (Colias hyale (L.))

Never so common as the previous species and similarly relies solely on migration.

The Brimstone (Gonopteryx rhamni (L.))

Remains widely distributed and fairly common.

The White admiral (Limenitis camilla (L.))

This used to occur at Stapleford up to a century ago and was common in 1935 at Dullingham, where its continued presence needs confirming. Seen in the West of Cambridgeshire in 1959.

The Comma (Polygonia c-album (L.))

This species was common before 1843, when it disappeared from the County until 1928. It then became quite common in the late forties but has recently been getting scarce again.

The Small tortoiseshell (Aglais urticae (L.))

Very widely distributed and hibernates as an adult in houses, sheds, etc. Fluctuates widely in numbers from year to year, exceedingly abundant in 1958, scarce in 1961.

The Peacock (Nymphalis io (L.))

Widely distributed. It was formerly rather common but has been distinctly scarce over the past few years. Mr. W. H. Fordham reports seeing an almost black Peacock with brilliant silvery eyes on August 18th 1962. The butterfly was resting with wings expanded on a bare patch in the grass roadway at the South side of Morden Grange Plantation near the chalk pit. The wings were very dark coloured and the eyes were black surrounded by narrow light rings.

The Painted lady (Vanessa cardui (L.))

A migrant which has not been particularly common since 1947.

The Red admiral (Vanessa atalanta (L.))

Another migrant which has been much scarcer of late.

The Dark green fritillary (Argynnis aglaia (L.))

This species was widely distributed in the nineteenth century; the only records for this are at Chippenham and Quy Fens, both recently.

The Grayling (Eumenis semele (L.))

This species used to be common on the chalk areas of the County where its presence today needs confirmation, the only recent record being from Fulbourn.

The Speckled wood (Pararge aegeria (L.))

This species is local in the County but may be common in the restricted areas in which it does occur. It has recently been found commonly at Papworth and Hayley Wood; rare at Chippenham Fen, Caldecote and Madingley.

The Wall (Dira megera (L.))

A widely distributed butterfly which has become much scarcer in recent years.

The Meadow brown (Maniola jurtina (L.))

Widely distributed throughout the County. It formerly used to occur in myriads in suitable grassy localities, but it is now generally much less common, probably because of closer ploughing and tidying-up processes.

The Gatekeeper (Maniola tithonus (L.))

Another species that was formerly common and is now much scarcer. It is very fond of visiting bramble blossom.

The Ringlet (Aphantopus hyperantus (L.))

The Victoria County history describes it as common in woods and fen droves at Chatteris. Its present status in the last locality needs confirming, but it is still to be found locally common along the Via Devana, and at Chippenham Fen, Thriplow meadows, Caldecote, Fulbourn, Waterbeach. It has recently become extinct on Quy Fen, where it was very common ten years ago.

The Small heath (Coenonympha pamphilus (L.))

Widely distributed and still quite common in some localities.

The White letter hairstreak (Strymon W-album (Knoch))

This species used to be widely distributed. It may still

be, but the only recent record is from Wimpole. It is usually found near wych elms and should be looked out for round Cambridge, Wicken Fen, Conington, and Chatteris.

The Green hairstreak (Callophrys rubi (L.))

Formerly common and widely distributed. It has been rather scarce lately.

The Small copper (Lycaena phlaeas (L.))

Formerly common and widely distributed, distinctly scarce lately, extinct at Quy Fen and near Ely, where it was common only a few years ago.

The Brown argus (Aricia agestis (Schiff.))

Occurs chiefly on the chalk areas of South Cambridgeshire and is probably less common than it used to be.

The Common blue (Polyommatus icarus (von Rott.))

Formerly common and widely distributed, it is still holding its own.

The Chalk-hill blue (Lysandra coridon (Poda))

Found on the chalk areas of the County, probably scarcer than it used to be.

The Holly blue (Celastrina argiolus (L.))

Fairly widely distributed, much scarcer round Cambridge than it used to be, and probably elsewhere also.

The Small blue (Cupido minimus (Fuessly))

Described by the Victoria County History as fairly common on chalk areas. The only locality at present known to me is the Gog Magog hills.

The Grizzled skipper (Pyragus malvae (L.))

Widely distributed but by no means common.

The Dingy skipper (Erynnis tages (L.))

Widely distributed but by no means common.

The Small skipper (Thymelicus sylvestris (Poda))

Widely distributed, still quite common in some localities.

The Essex skipper (Thymelicus lineola (Ochs.))

Liable to be confused with the above and is probably scarcer and more restricted in range.

The Large skipper (Augiades venata (B & G.))

Widely distributed, still quite common in some localities.

II. SPECIES WHOSE PRESENT STATUS IS UNCERTAIN

The large tortoiseshell (Nymphalis polychlorus (L.))

In the nineteenth century it was widely distributed and fairly common but was extinct by 1904. One specimen was seen at Cambridge in 1953. This species appears to be extending its range again and should be looked for near large stands of elm, particularly near our border with Suffolk.

The Silver washed fritillary (Argynnis paphia (L.))

Used to occur at Chippenham and several other localities in the last century. The last one was seen at Mading-

ley in 1936. A species to be looked out for in woodlands. It is fond of bramble blossom.

The Marbled white (Agapetes galathea (L.))

This species used to be found near Cambridge and Chatteris. It is very local in habitat, often occurring in only one corner of a field. It is common in parts of Huntingdon and would be worth looking for along the border.

The Brown hairstreak (Thecla betulae (L.))

The last record was at Babraham in 1929. It should be looked for near blackthorn bushes, particularly at the following localities: Hatley Wood; Swaffham Prior, Babraham, and along the Via Devana.

The Purple hairstreak (Thecla quercus (L.))

This was found in a number of localities in the nineteenth century. It was common in Doddington Wood until 1910, and at Dullingham, where it might still be, until 1935.

The Silver-spotted skipper (Hesperia comma (L.))

This used to be fairly common on the chalk areas of the County. There are no recent records and it should certainly be carefully looked out for as it probably still occurs.

III. SPECIES EXTINCT IN THE COUNTY

The Bath white (Pontia daplidice (L.))

A migrant, usually taken rarely on the south coast. There is some evidence that a colony was established in south Cambridgeshire for a short time about 150 years ago.

The Wood white (Leptidea sinapis (L.))

Apart from two records in 1835 and 1843 there is no evidence that this species was ever established.

The Purple Emperor (Apatura iris (L.))

There are a few nineteenth-century records. It is doubtful if there is a wood large enough in Cambridgeshire to suit this species.

The Camberwell beauty (Nymphalis antiopa (L.))

This is an occasional migrant which does not seem to migrate as often as it used to. The last Cambridgeshire record was in 1904.

The High brown fritillary (Argynnis cydippe (L.))

There exist only two records for this woodland species, both about a century old.

The Queen of Spain fritillary (Argynnis lathonia (L.))

Another migrant, but it was perhaps breeding at Gamlingay for a few years around 1800.

The Pearl-bordered fritillary (Argynnis selene (Schiff.)

This used to occur in a few localities in the nineteenth century.

The Small pearl-bordered fritillary (Argynnis euphrosyne (L.))

This used to occur with the above. The disappearance of both is rather puzzling. They are open woodland species still quite common in neighbouring counties.

The Heath fritillary (Melitaea athalia (von Rott.))

Found at Baitsbite over a century ago.

The Glanville fritillary (Melitaea cinxia (L.))

Two were taken at Stapleford in 1842.

The Marsh fritillary (Euphydryus aurinia (von Rott.))

This used to occur in several fens in south Cambridgeshire. The last one was seen at Wicken in 1922.

The Large copper (Lycaena dispar (Har.))

A very famous insect of which the first specimen was seen between Cambridge and Ely, apart from which there is little evidence of its occurrence in the County. Became extinct by 1862.

The Silver-studded blue (Plebeius argus L.)

Used to occur in several localities in the nineteenth century.

The Adonis blue (Lysandra bellangus (von Rott.))

This was found near Newmarket in the nineteenth century.

The Mazarine blue (Cyaniris semiargus (von Rott.))

Formerly found in several localities in South Cambridgeshire during the nineteenth century. Extinct through the country.

The Large blue (Maculinea arion (L.))

One was taken at Chatteris in 1859. The species is now confined to the West Country but was formerly more widespread.

The Duke of Burgundy fritillary (Hamearis lucina Hb.)

Formerly found in several localities during the nineteenth century.

The Chequered skipper (Carterocephalus palaemon (Pallas))

This species was found at Gamlingay early in the nineteenth century. It has recently become quite common in Huntingdonshire and should be looked for along the border since there seems a good chance that it may return to Cambridgeshire.

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CONFERENCE OF COUNTY NATURALISTS' TRUSTS

NORWICH 18 TO 20 MAY 1962

W. E. H. Fiddian

A conference that was different - where enthusiasm was infectious, where there was a stream of stimulating ideas from the platform, and where only those quickest to their feet were able to put a question from the floor. Such was the second national conference of County Naturalists' Trusts held in Norfolk in May.

It was two years since the first conference had been held in Lincolnshire, and during the intervening period the network of trusts had extended to cover nearly all the counties in England, and is spreading into Wales. The Cambridgeshire and Isle of Ely Trust was represented by three delegates, including (for part of the time) Dr. A. S. Watt who gave a paper on Breckland, with special reference to the preservation of rare plants on its more alkaline heaths. Largely as a result of this paper and another by Dr. Rose of the Kent Trust, it was proposed that a working party might be set up to study the conservation of chalk grassland, and that this might later be followed by similar studies of other habitats.

The Norfolk Trust is the oldest in the Country. The county has a wealth of natural history interest with its Breckland, the Broads, the coastline and the fenny heaths, and even before the formation of its Trust in 1926, the two famous reserves of Blakeney Point and Scolt Head had been acquired for the National Trust. Owing to the foresight of Dr. Sydney Long and others, properties were bought while they were still cheap and plentiful so that the Trust now owns over 20 reserves, totalling some 3,500 acres and covering all these important habitats. But the problems of estate management in the face of increased cost of labour are proving a considerable challenge, and the safeguarding of the reserves from other interests requires constant vigilance.

During the two and a half days in Norfolk, some of these reserves were visited. On the Breckland heaths, one of the main problems is the vastly decreased rabbit population. The turf is no longer grazed short and the spread of coarse tufts crowds out the small annuals, some of which are practically confined to Breckland. One large heath is wired in, and contains a strong colony of disease-free rabbits; on another, boxes are buried as nesting sites for the wheatears which can no longer make use of rabbit burrows, and squares of heath are shallow-ploughed to encourage the stone curlews to nest.

Around the margin of the Hickling Broad property areas are mown and the water level controlled to suit many birds and provide a feeding place for waders. There seems no reason why species such as the Ruff, the Black Tern and Savi's Warbler should not return once again to nest in this country.

The papers and discussions in conference ranged too widely to allow even a summary here; but one theme stood out as of prime importance - that of the education of the younger generation. If children can be imbued with a love of nature and a sense of preservation, then many of the future problems of conservation are solved. The Lincolnshire Trust already holds residential courses for biology teachers at their Gibralter Point reserve. The Berkshire, Buckinghamshire and Oxfordshire Trust has experimented with 'Nature Trails', the county trusts are to take a leading part in the National Nature Week in 1963, and there is room in every Trust for an education sub-committee to work on similar projects.

Laws may be necessary for the time being to prevent the spoiling of the countryside, but how much better to aim for the time when some of these laws are no longer necessary!

FOSSIL WOOD IN CAMBRIDGESHIRE

W.H Fordham

Fossil wood occurs in the Cambridgeshire Greensand and a piece has been found below the Burwell Rock at Burwell. In May 1962 wood enclosed in flint was discovered in the Middle Chalk about 50 or 60 feet above the Melbourn Rock near Ashwell and Morden Station.

Fossil wood in the Chalk is so rare that this latest find may be worth describing in some detail. It was noticed when a grain-drier pit was being dug out of the chalk with a mechanical excavator at Cheyneys Lodge. Just as the work was finishing a large flat flint, about eight feet from the surface, was broken to pieces and wood-like material was seen among the debris. Specimens were sent to the British Museum (Natural History) and were identified as Conifer, exceptionally well preserved.

The Museum only possesses three other examples of wood preserved in flint, and these came from localities in Kent, Surrey and Sussex. The Sedgwick Museum also has three similar examples, two unlocalised and the other from the Upper Chalk near Guildford.

It is difficult to give an exact description of the flint and its contents, as most of it was broken into pieces less than two inches long, some of which may not have been recovered; also part of the flint was left in the wall of the pit which has now been bricked up. It seems however to have been a somewhat irregularly shaped flint, not less than twelve inches long, six inches wide and about three inches in maximum thickness, enclosing woody material.

The flint itself was black with a white chalky covering and there were a number of cracks or joints filled with light blue flint.

The woody material was silicified with a maximum thickness of one and a quarter inches. Part of it was of very fine texture of a light brown colour, exactly like dry wood. The remainder was darker and coarser, with quantities of little angular pieces of dark flint sticking into it. There were also several specks coloured bright yellow, no doubt iron pyrites. A thin layer of brown flint covered or underlay much of the wood and extended in places into the enveloping dark flint.

According to the present accepted time scale the Cheyneys Lodge wood must be not less than ninety million years old.

It is quite possible that a close study of this and the other examples of wood enclosed in flint would throw considerable light on the stages in the conversion of organic matter into flint.

THE DIATOMS OF WICKEN FEN & HAYLEY WOOD

E. A. George

Though diatoms constitute one of the most important and better-known groups of microorganisms they have never been studied extensively in Cambridgeshire. This is the more remarkable considering both the presence of the University and the fact that diatoms have long been a favourite study for amateur microscopists. The only local diatom species lists of note are those of G. S. West (1899 and 1911). Recently a few random gatherings were made from the Lode and Brick Pits at Wicken Fen and in Hayley Wood. The results given below show a total of 202 different kinds, of which just over half are new records for the county. It is quite certain that further gatherings will considerably increase these figures.

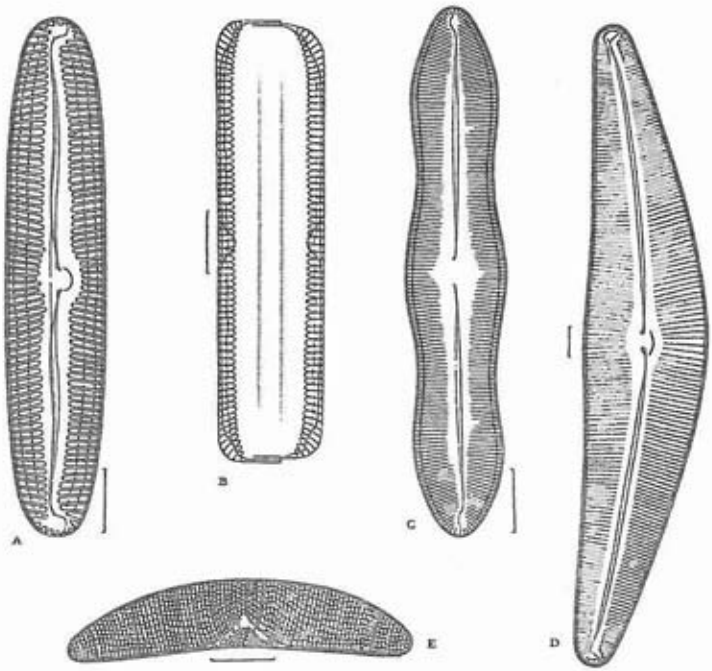
The names are according to Süsswasser-Flora, Heft 10, 1930.

Thanks are due to Mr. J. R. Carter for performing the vast majority of the identifications of these diatoms.

List of diatoms from Hayley Wood & Wicken Fen, 1962.

w = at Wicken
h = at Hayley
c = new county record

Achnanthes	affinis	w c
	clevei	w c
	conspicua	w c
	exigua	w c
	exilis	w
	flexella	w
	hungarica	w
	lanceolata	w h
	marginulata	w c
	microcephala	w h
	minutissima	w h c
	parvula	w c
	rossii	w c
Amphipleura	pellucida	w
Amphora	normanii	w c
	ovalis	w h
	var. pediculus	w
	perpusilla	w c
	veneta	w c
Anomoeoneis	exilis	w
	sphaerophora	w
Caloneis	bacillum	w h c
	schumanniana	w c
	silicula (Fig. C)	w h
	var. alpina	w c
Campylodiscus	noricus var. hibernicus	w
Ceratoneis	arcus	w h c
Cocconeis	pediculus	w
	placentula	w h
	thumensis	w c
Cyclotella	comta	w c
	kutzingiana	w
	meneghiniana	w
Cymatopleura	elliptica	w
	solea	w h
Cymbella	affinis	w h
	aspera (Fig. D)	w h
	cesatii	w h c
	cistula	w
	cymbiformis	w
	var. caldostagnensis	w c
	var. longa	w c
	ehrenbergii	w
	helvetica	w c
	var. compacta	h c
	lanceolata	w
	leptoceros	w c
	microcephala	w c
	obtusa	w c
	obtusiuscula	w c
	parva	w h c
	prostrata	w c
	tumidula	w c
	ventricosa	w h
Denticula	tenuis	w
Diatoma	elongatum	w
	hiemale	h
	var. mesodon	w c
	vulgare	w
Diploneis	elliptica	w h
	oculata	w c
	ovalis	w h c
Epithemia	gibba	w c
	turgida	w
	zebra (Fig. E)	w c
Eunotia	arcus	w c
	faba	w c
	flexuosa	w
	gracilis	w
	lunaris	w h
	var. capitata	w c
	var. subarcuata	h c
	pectinalis	w
	var. minor f. impressa	w c
Fragilaria	brevistriata	w c
	capucina var. acuta	w c
	var. mesolepta	w c
	construens	w
	var. subsalina	h c
	crotonensis	w c
	intermedia	w h c
	pinnata	w c
	virescens	w
Frustulia	vulgaris	w h c
Gomphonema	acuminatum	w h
	var. brebissonii	h c
	angustatum	w h
	augur	w
	constrictum	w
	gracile	w
	intricatum	w
	longiceps	w h c
	var. subclavata f. gracilis	h c
	olivaceum	w
	olivaceoides	h c
	parvulum	w h
Gyrosigma	acuminatum	w h
	attenuatum	w
Hantzschia	amphioxys	w h
Mastogloia	smithii	w c
	var. lacustris	w c
Melosira	varians	w h
Meridion	circulare	w h



A, B, different views of Pinnularia viridis.
C, Caloneis silicula. D, Cymbella aspera.
E, Epithemia zebra.
The scale beside each diatom is 10 microns (=1/100 millimetre).

Navicula	anglica	w	Navicula	pelliculosa	h c
	bacilliformis	w c		perpusilla	w c
	bacillum	w c		placentula	w c
	cari	w c		f. rostrata	w c
	cincta	w h c		pupula	w h c
	var. heufleri	h c		pygmaea	w c
	clementoides	w c		radiosa	w h
	cryptocephala	w		rhychocephala	w
	cuspidata	w h		rotaeana	w c
	dicephala	w h		salinarum f. capitata	w c
	digitoradiata	w c		subbamulata	w c
	gastrum	w		viridula	w
	gracilis	w			
	graciloides	w c	Neidium	affine	w h
	gregaria	w c		dubium	w c
	grimmei	w c		iridis	w
	halophila	w h c		productum	h c
	hungarica	w c			
	lanceolata	w h	Nitzschia	acicularis	w
	var. cymbula	h c		amphibia	w h
	menisculus	w		angustata	w c
	miniscula	w c		var. acuta	w c
	mutica	w c		apiculata	w c
	oblonga	w h		denticulata	w

Nitzschia	dissipata	w h
	dubia	w h
	fonticola	h c
	frustulum	w c
	gracilis	w c
	hungarica	h c
	kutzingiana	w h c
	linearis	w h
	ovalis	w c
	palea	w
	recta	w h c
	romana	w c
	sigmoidea	w
	tryblionella var. debilis	w h
	vermicularis	w
Pinnularia	appendiculata	w
	fasciata	w h c
	gibba	w c
	gracillima	w c
	hemiptera	h
	interrupta	w c
	leptosoma	w c
	major	w h
	mesolepta	h
	microstauron	h c
	var. brebissonii	w h
	nobilis	h
	subcapitata	w
Pinnularia	viridis (Fig. A, B)	h
	var. leptogongyla	w c
Rhoicosphenia	curvata	w
Rhopalodia	gibba	w
	gibberula	w
	parallela	w c
Stauroneis	acuta	w c
	anceps	h
	phoenicenteron	h
	smithii	w h c
Surirella	angusta	h
	biseriata	w
	linearis	w h
	var. constricta	w c
	ovalis	h
	ovata	w h
Synedra	acus	w
	affinis	w c
	capitata	w c
	miniscula	w c
	parasitica	w c
	pulchella	w
	ulna	w
	rumpens var. familiaris	w c
	vaucheriae	w c

THE MUNTJAC DEER IN CAMBRIDGESHIRE

by
W. H. Fordham

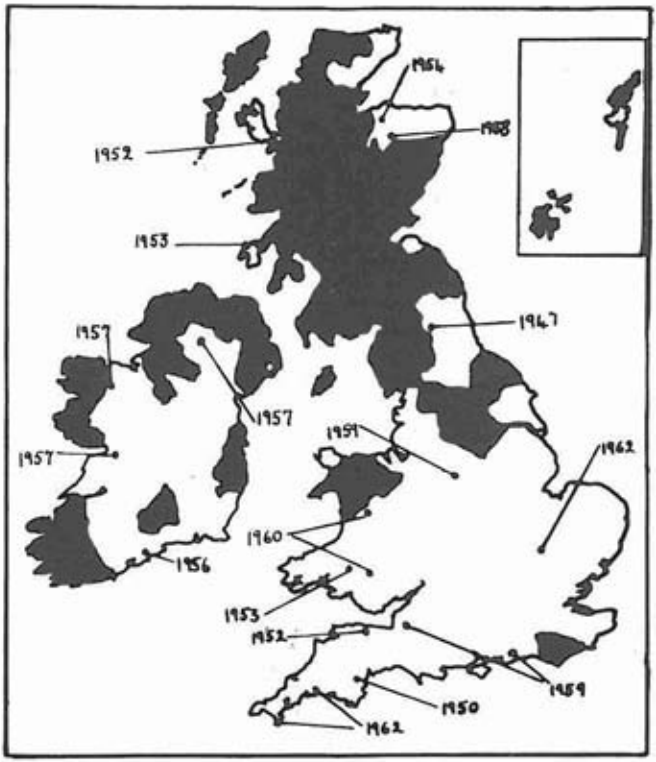
Another mammal can now be added to those listed in Mammals of South-West Cambridgeshire in Nature in Cambridgeshire 2, 20 (1959), as the Muntjac deer was seen in the district on a number of occasions in 1962. Its tracks have been found quite widely distributed in the snow of January 1963.

NOWELLIA CURVIFOLIA (DICKS.) MITT. IN HAYLEY WOOD

M. H. Martin

The discovery of Nowellia curvifolia in Hayley Wood on 21st March 1962 represents the first record of this liverwort in East Anglia. This bryophyte grows on rotting wood (a fallen oak in this case) in moist sheltered places. It has generally been regarded as a species of the North and West of Britain; Macvicar (1926), for example, describes its distribution in Britain as "Wales to Shetland and Ireland, subalpine", though Arnell (1956) describes it as a southern lowland plant in Scandinavia. The accompanying map shows the distribution of Nowellia curvifolia in the British Isles; pre-1930 records are shown on a vice-county basis (black areas). The rather widespread appearance of the post-1930 records have led some bryologists to express the opinion that this bryophyte is extending its range.

Mitten named the genus in 1870 after John Nowell, who is described as "a working-man botanist" and "a zealous investigator of the mosses and hepaticae of Yorkshire".



Nowellia Curvifolia in the British Isles

TWO WEEVILS NEW TO CAMBRIDGESHIRE

M. G. Morris

(Monks Wood Experimental Station - The Nature Conservancy)

Neither of the two weevils here recorded is included in the lists of Omer-Cooper and Tottenham (1932), for Wicken Fen, and Donisthorpe (1938), for Cambridgeshire. I cannot find that they have been recorded in the entomological literature published since these lists.

Caenorhinus longiceps Thoms. (= harwoodi (Joy)). I beat a single specimen of this species from sallow in Milner-White's piece on 5th June 1962. The sallow beaten was at a height of 5 feet from the ground, but it is possible that the beetle fell from higher up - this would be either the field layer or low canopy of deciduous woodland (actually Fen woodland) in the terrestrial system (T/4(D)/3 + 4) in the ecological classification of Elton and Miller (1954). With it occurred the weevils Dorytomus taeniatus (F.), D. salicinus (Gyll.), Acalyptus carpini (F.) and Miccotrogus picirostris (F.), and Psylla saliceti (Forst.) (Homoptera, Psyllidae). Little seems to be known of the biology of C. longiceps, which is one of the most local species of Caenorhinus in Britain. It is usually found on sallow, sometimes in company with C. tormentosus (Gyll.), with which it was confused by earlier workers.

Litodactylus leucogaster (Marsh.). On 5th September 1962 I sieved vegetation which had been roded from Wicken Lode for the aquatic weevil Eubrychius velatus (Beck). This vegetation was clearly derived from submerged vegetation in a medium-sized, slow-flowing water body of the aquatic system (C/2/3) in the classification of Elton and Miller (1954). With twenty examples of E. velatus species I found one L. leucogaster. Both these weevils swim well under water and E. velatus is known to have an efficient plastron respiration (Thorpe and Crisp, 1949). A brief microscopic examination of the scales of L. leucogaster suggests that it too has a plastron. The reasons why L. leucogaster is apparently rare at Wicken while E. velatus is common are not known.

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VASCULAR PLANT RECORDS FOR 1962

by
F. H. Perring and P. D. Sell

Polypodium vulgare L. agg. Roof of Kirtling Church, April 1962, F. H. Perring.

Silene dichotoma Ehrh. Lucerne field, Duxford Heath, 10 July 1962, G. Crompton. A second record of this rare alien.

Chenopodium murale L. Weed in Pembroke College Grounds, Cambridge, 18 July 1962, H. Gilbert-Carter.

Erodium cicutarium (L.) L'Herit. subsp. dunense Andreas. Chippenham Gravel Pit, June 1962, F. H. Perring. First record of this subspecies which is frequent in the Breckland.

Trifolium medium L. Sawston Hall, June 1962, G. Crompton. Only known elsewhere in the county at Dernford Fen.

Lathyrus latifolius L. Hedge at Hinxton, 21 August 1962, P. D. Sell. Only the third record of this alien.

Euphorbia platyphyllos L. Nr. Woodbury Lodge Farm, 17 July 1962, P. J. Bourne.

Symphytum grandiflorum DC. Kirtling Towers, 1962, R. Lancaster. First record of this alien.

Lycium chinense Mill. Hedge at Hinxton, 21 August 1962, P. D. Sell. This is the rarer of the two species of Lycium in the county.

Chrysanthemum serotinum L. Naturalised by the Old West River, Elford Closes, near Stretham, 25 September 1962, K. R. Sporne. First record of this alien.

Epipactis purpurata Sm. Hildersham Wood, 7 September 1962, J. C. Faulkner. An exciting new county record. See article on page 26.

Ophrys insectifera L. 2 plants at Bottisham Hall, 1961, S. Jenyns.

Scirpus tabernaemontani C. C. Gmel. Disused part of East Anglian Cement Works Pit, Shepreth, August 1962, P. J. Bourne.

Bromus interruptus (Hack.) Druce. Refound in one of its former stations at Pampisford, June 1962, J. C. Faulkner, F. H. Perring, C. T. Prime and S. M. Walters. This may now be the only place in the world where this species is to be found. (cf. article in Nature in Cambs. 5:28 (1962)).

PIGEONS IN SOUTH WEST CAMBS.

by
W. H. Fordham

Eighty years ago the Wood Pigeon (Columba palumbus) was only a summer visitor, nesting in very small numbers and departing in early October.

The Odsey Game Books show that in the seven years 1874 to 1880 only ten pigeons were shot, all in September or early October. By 1881 the number was increasing and ten pigeons were shot in October. In 1882 one was shot in January, several in September, and nineteen in December. From 1883 onwards there was a gradual increase in the number of nesting pigeons, with small flocks appearing occasionally in the winter. By 1900 more than fifty pigeons were being shot each year, mostly in April, August and September. The first year with a considerable number of winter pigeons, was 1903, when over two hundred were shot in the four months January to April. In 1910-11 when there was a quantity of Beech nuts pigeons stayed on all through the autumn and winter and more than four hundred were killed. Pigeons continued to increase and five hundred were shot in 1929-30. The average bag in the thirteen years 1929 to 1942 was four hundred and eighty, the smallest number in any year being one hundred and sixty in 1936-37, when there were practically no pigeons seen in the winter months, and the largest over eight hundred in 1939-40, with five hundred shot in the three months December to February. After this the number of pigeons decreased both in summer and in winter and only sixty were shot in 1946-47. The virtual disappearance of the pigeon was general all over England and Colquhoun[2] puts it down to two war-time factors, the decreased shooting of predatory birds and the increased shooting of pigeons. Pigeons began to increase again after 1947 with a sudden jump in 1952-53 when eight hundred and fifty were shot, six hundred of them in the three months December to February. For the next five years pigeons were comparatively scarce, especially in the summer. In the last four years, however, there have been quantities of pigeons about, eight hundred being shot in 1959-60, six hundred in 1960-61, nine hundred in 1961-62, and the number in 1962-63 will considerably exceed twelve hundred, with nearly one hundred trapped in addition.

It is still not clear where all the winter pigeons come from. The Handbook[1] says "Observational and marking methods both indicate that British-bred birds are resident and almost completely sedentary. Majority of recoveries

of ringed birds show quite short journeys." "Immigrants from Continent arrive E. coast, northern isles to Thames, late September to January. Numbers very variable, some years small, in others roughly every four to six years, immense. Flocks spread through country, movements governed by prevailing weather and available food-supply. Return passage by same route mid-February, to 2nd week June, mostly end March to mid-May." Colquhoun[2] however, states:- "There is no evidence that Wood Pigeons regularly migrate to or from Britain. There is a certain amount of cross Channel traffic as shown by records at light-vessels, lighthouses, and ringed birds, but these represent irregular wanderings, mainly by juvenile birds, and not migration. On the other hand, there is a regular migration from the north to the south of Britain, involving a journey of about 400 miles, along a well-established route, and with pronounced gregatious behaviour." "In Scotland, a large Wood Pigeon population breeds in the Highlands. These birds, it is here argued, migrate down the valleys to the lowlands, but in a severe winter they do not stay in the lowlands but migrate to the south of England."

The Ministry of Agriculture advisory leaflet 165, revised 1959, takes a different view and says that "the Wood Pigeon must be considered a resident, and although a small number do move comparatively short distances, the large flocks noticed in any area during the winter months have usually been reared locally." It also recommends nest destruction as an important ancillary method of control, and when the work is done by rabbit-clearance societies a grant of half the cost is paid.

In the B. B. C. Bird Talk on Wood Pigeons on September 2nd 1962 it was suggested that "many pigeons move south from Scandinavia late in the autumn and if blown off course may travel down the East coast. These are on their way to Spain and do not stop here. A few weeks after this movement pigeons moving westward from Central Europe arrive in East Anglia many of them young birds, and these birds may stay on in England." Both these movements have been noticed at Odsey, the North-South line of flight being over Ashwell and Morden Station.

To account for what has been observed locally one might almost suggest that there are two types of Wood Pigeon in Southern England, one living in pairs and nesting all the year round in sheltered places and gardens, and the other type living in the open in flocks and nesting in colonies in the summer months, rarely building before July. In addition to the wood pigeon two other doves occur in the district, the Stock Dove (C. oenas), and the Turtle Dove (Streptopelia turtur). The Stock Dove was found nest-

ing in rabbit holes in the Morden Grange Chalk Pit in 1893 and within a few years it was nesting in holes in Elm trees at Odsey. The first winter flock was noticed in 1897. It is essentially a grain-eater, living on spilt Corn and Charlock seed. In the warm winters previous to 1940 it was fairly common, but of late years it has decreased and is now rarely seen. This is no doubt due to cold winters and decrease in the available food. The Turtle Dove increased a lot between 1930 and 1950, and hundreds could be seen in July on the Power Lines between Royston and Odsey. Their staple foods, until the corn is ripe, are Charlock and Fumitory seeds. Both these have disappeared, and the Turtle Dove seems to have become much less common in consequence.

The recent addition to the British Pigeons, the Collared Dove (S. decaocto) has been seen in the Odsey district, on a number of occasions, though it is not yet known to have nested.

References

(1) The Handbook of British Birds. Witherby and Others (1938-41).

(2) Agricultural Research Council. The Wood Pigeon in Britain. M. K. Colquhoun (1951).

Dactylorchis praetermissa

Epipactis purpurata.

WEATHER NOTES FOR CAMBRIDGESHIRE 1962

J. W. Clarke

During the year many months had below-normal temperatures. The spring was abnormally cold and prolonged with night frosts continuing into June. Persistent cold N.E. winds gave the coldest March for seventy years, and five days with snow lying at Swaffham Prior. May was also cold having many days when temperatures were more in keeping with those to be expected in a normal March. In June day temperatures exceeded the average, but night minima still remained extremely low. On the 3rd 3°F. of air frost were recorded. From July to the end of the year temperatures were almost continuously below average. Only one day in the summer exceeded 80°F. By mid-November the winter frost had set in again. December was the coldest month of the year with 20°F. of frost on the 5th. Skating became possible on the fen lodes at Reach and Burwell in the first week of the month.

The year as a whole was very dry—18.75 ins. of rain fell at Swaffham Prior—about three inches below the mean. There was a marked absence of thunderstorms during the summer, due no doubt to the lack of heat. Normally, thunder rain forms a large proportion of the total annual rainfall in Cambridgeshire. June was the driest month with only the slightest trace of measurable rain on the 30th. February (0.60 ins.) was also very dry, but September with (3.00 ins.) on eighteen rain days was unusually wet. The range of temperature for the year was 21.5°F. compared with an average of 24.3 F.

I am grateful to Rev. W. Francis Hicks for the records below.

Weather Records at Swaffham Prior 1962

Month	Temperature Mean. Max.	Mean Min.	Highest	Lowest	Total Rainfall	No. of Rain-days	Estd. Sunshine hours
January	44 (+3)	33	55° on 24th	12° on 4th	2.13	15	84
February	46 (+3)	34 (+1)	57° on 12th	24° on 22nd	0.60	13	73
March	44 (—4)	28 (—7)	53° on 26th	17° on 17th	1.39	16	118
April	55 (+1)	38	72° on 26th	28° on 13th	1.64	14	117
May	60 (—2)	42 (—2)	69° on 7 & 8th	28° on 1st	1.78	20	139
June	70 (+2)	45 (—6)	81° on 9th	29° on 1st & 3rd	0.06	6	259
July	67 (—4)	52 (—1)	74° on 24 & 25th	43° on 7th	2.22	12	128
August	67 (—3)	52 (—1)	73° on 19th	44° on 9th	1.51	15	163
September	61 (—4)	46 (—3)	72° on 3rd	36° on 18th	3.00	18	147
October	56	44	64° on 1st & 2nd	32° on 29th	1.36	10	104
November	45 (—3)	36 (—1)	56° on 5th	24° on 20th & 23rd	1.24	17	39
December	37 (—6)	27 (—8)	54° on 15th	12° on 5th & 29th	1.82	11	98
Ann. Means and Totals	54	40			18.75	167	1469
1961	57.5	42.5			20.69	167	1606

Number of nights under 32°F.—94
Number of nights under 20°F.—14

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