

# The Bedfordshire Naturalist 41



Journal  
for the year 1986

Bedfordshire Natural History Society 1987

ISSN 0951-8959

# BEDFORDSHIRE NATURAL HISTORY SOCIETY 1987

## Chairman:

Mr D.G. Rands, 51 Wychwood Avenue, Luton LU2 7HT

## Honorary Secretary:

Mr D. Kramer, 7 Little Headlands, Putnoe, Bedford MK41 8JJ

## Honorary Treasurer:

Mr M.R. Chandler, 19 Hillside Close, Shillington, Hitchin, Herts SG5 3NN

## Honorary Editor (*Bedfordshire Naturalist*):

Mr C.R. Boon, 7 Duck End Lane, Maulden, Bedford MK45 2DL

## Honorary Librarian and Membership Secretary:

Mr R.B. Stephenson, 'Owlwood', 4 Oakley Road, Bromham, Bedford MK43 8HY

## Honorary Scientific Committee Secretary:

Miss R.A. Brind, 46 Mallard Hill, Bedford MK41 7QS

## Council (in addition to the above):

Ms C.A. Aldridge  
Dr D. Allen  
Mr V.W. Arnold

Mr S.A. Cham  
Mr D. Green  
Mr A.J. Martin  
Mr B.J. Nightingale

Mr A.R. Outen  
Mrs M.J. Sheridan  
Mr H.R. Winter

## Honorary Editor (*Muntjac*):

Mrs B. Chandler, 19 Hillside Close, Shillington, Hitchin, Herts SG5 3NN

## Committees appointed by Council:

### Finance:

Miss R. Brind  
Mr M. Chandler (Sec.)

Mr D. Green  
Mr D. Kramer

Mr D. Rands  
Mr B. Stephenson

### Membership:

Mr V. Arnold  
Mr J. Burchmore  
Mrs B. Chandler  
Mr M. Chandler

Mr P. Clarke  
Miss B. Clutton  
Mr W. Drayton  
Mr D. Green  
Mr S. Halton

Mr D. Rands  
Mrs M. Sheridan  
Mr B. Stephenson (Sec.)  
Mr H. Winter

### Scientific:

Mr D. Anderson  
Mr C. Boon  
Miss R. Brind (Sec.)  
Mr S. Cham

Miss A. Day  
Mr G. Dennis  
Mr J. Knowles  
Mr D. Kramer  
Mr A. Livett

Dr B. Nau  
Mr B. Nightingale  
Mr B. Squires  
Mr P. Trodd

## Trustees (appointed under Rule 13):

Mr M. Chandler

Mr D. Green

Mrs B. Rands

## THE BEDFORDSHIRE NATURALIST

No. 41 (1986)

Edited by C.R. Boon

### CONTENTS

Officers of the Society .....	cover ii
Report of the Council .....	2
Proceedings .....	3
Report of the Treasurer .....	5
Statement of Accounts .....	6
Meteorology — Report of the Recorder .....	8
Botanical Assessment of Bedfordshire's Churchyards, 1982-85 — C.R. Boon .....	11
The Effects of Recreational Activity on Wintering Wildfowl Populations at Priory Park Lake, Bedford — D. Kramer .....	21
Birds — Report of the Recorder .....	27
Bedfordshire Bird List — P. Trodd .....	49
The First Breeding Record of Ruddy Duck <i>Oxyura jamaicensis</i> in Bedfordshire — P. Smith .....	52
Bird Ringing Report — Report of the Co-ordinator .....	54
Mammals — Report of the Recorder .....	55
Reptiles and Amphibians — Report of the Recorder .....	60
Fish — Report of the Recorder .....	62
Slugs and Snails — Report of the Recorder .....	64
Grasshoppers and Crickets — Report of the Recorder .....	64
Dragonflies — Report of the Recorder .....	65
Spiders — Report of the Recorder .....	66
Lacewing Flies — Report of the Recorder .....	66
Bugs — Report of the Recorder .....	67
Butterflies — Report of the Recorder .....	68
Micro-moths — Report of the Recorder .....	69
Macro-moths — Report of the Recorder .....	71
Checklist of Bedfordshire Coleoptera: (5) Addendum — B.S. Nau .....	74
The Musk Beetle <i>Aromia moschata</i> (L.) in Bedfordshire — R.A. Brind .....	75
Mosses and Liverworts — Report of the Recorder .....	76
Flowering Plants, Ferns and Fern Allies — Report of the Recorder .....	77
Further Notes on <i>Puccinellia distans</i> (Reflexed Saltmarsh-grass) in Bedfordshire — C.M. Dony .....	77
Lichens — Report of the Recorder .....	79
The Fungus Foray, 1986 — D.A. Reid .....	79
Recorders .....	cover iii
The Society .....	cover iii
Tetrad Map of Bedfordshire .....	cover iv

Front Cover: Ring Ouzel, Blows Downs, April 1986 (Andy Chick)

## REPORT OF THE COUNCIL

It is now forty years since the Society was formed and its history has been one of gradually increasing growth and involvement in the natural history of the county. We continue to receive many requests for information concerning the county's flora and fauna and, as building developments and changes in land uses continue apace, it is even more important that we continue to submit records so that a complete and accurate picture can be built up of all the important sites. Because of the amount and importance of the work being carried out by the Scientific Committee the position of Secretary of that committee has now been elevated to that of a Council Officer.

A good selection of meetings covering a wide variety of topics has been provided throughout the year and all have, in general, been well attended. The one day course at Shuttleworth and the trip to Yorkshire were both very successful.

A Special General Meeting was called in October to clarify the position regarding publication of the book and the Council is pleased to report that it is now in the hands of the publishers. The Council wishes to thank the Book Committee for the many hours that they have worked on this project.

The Publicity Committee has been actively engaged in promoting the Society throughout the county and, as a result of their hard work our membership has further increased to 465.

Our fortieth year was celebrated in style with an Anniversary Dinner at which two of our founder members, John Dony and Henry Key delighted a large and receptive audience with their reminiscences about the Society. Everyone agreed that it was a great success.

The Council regrets to announce that Dr Dony has decided to relinquish his post as Recorder of Flowering Plants, Ferns and Fern Allies, a position he has held with distinction since the formation of the Society in 1946. Also, after nine years, Mr Barry Nightingale is giving up his post as Recorder of Birds due to work commitments. During the year Mr Thomas resigned as Recorder of Spiders. The Council wishes to thank them all for their efforts and the efficient way in which they have carried out their responsibilities.

It is with regret that the Society learned of the death of Mr Roy Wagstaff who, for many years edited *The Muntjac*.

1986 has been a very busy year characterised by a great deal of hard work and the Council would like to pass on its thanks to all those involved in organising meetings, courses and fieldtrips, to Brenda Chandler for so ably taking over the editorship of *The Muntjac* and to Chris Boon, the editor of the *Bedfordshire Naturalist*.

DAVE KRAMER

	1983	1984	1985	1986
Ordinary Members	345	348	351	375
Associate Members	64	62	63	62
Student Members	24	17	14	14
Corporate Members	10	11	10	7
Life Members	5	5	5	5
Honorary Life Members	4	4	4	2
	452	447	447	465

*Table: Membership of the Society over the last four years*

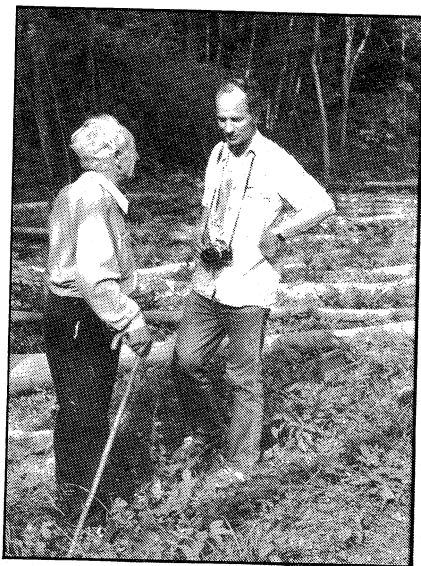
## PROCEEDINGS

### Indoor Meetings

- 541st Ordinary Meeting** 9th January, Bedford. Members' evening. Chair: Mr R.B. Stephenson.
- 542nd Ordinary Meeting** 15th January, Ampthill. Twitchers' evening. Chair: Mr B.J. Nightingale.
- 543rd Ordinary Meeting** 21st January, Dunstable. "The wildlife of two islands — Skomer and Rhum" by Mr C. Banks and Mr B. Barton. Chair: Mr S. Cham.
- 544th Ordinary Meeting** 30th January, Luton. "British ferns and their relatives"  
Mr A.R. Outen. Chair: Mr V.W. Arnold.
- 545th Ordinary Meeting** 6th February, Bedford. "A taste of Welsh wildlife" by Mr R. Revels.  
Chair: Mr J. Zorzi.
- 546th Ordinary Meeting** 11th February, Ampthill. Chairman's evening. "A close look at small mammals" by Mr D.G. Rands.
- 547th Ordinary Meeting** 18th February, Dunstable. "Restoration of disused chalk quarries" by Mr G. Atkins. Chair: Mr S. Cham.
- 548th Ordinary Meeting** 27th February, Luton. "A country lane" by Mr W. Drayton.  
Chair: Mr D. Green.
- 549th Ordinary Meeting** 12th March, Bedford Museum. "An introduction to the work of the Museum" by Miss R. Brind.
- 550th Ordinary Meeting** 18th March, Dunstable. Members' evening. Chair: Mr M. Sheridan.
- Annual General Meeting** 25th March, Flitwick.
- 551st Ordinary Meeting** 2nd October, Bedford. "A countryman's camera" by Mr A.J. Martin.  
Chair: Mr R. Revels.
- 552nd Ordinary Meeting** 15th October, Ampthill. "Mountains and their flowers"  
Mr M.R. Chandler. Chair: Mrs E.B. Rands.
- 553rd Ordinary Meeting** 21st October, Dunstable. "British Bats" by Mr P. Richardson (Northants Bat Group). Chair: Mr D. Anderson.
- Special General Meeting** 30th October, Flitwick. To discuss the book *Bedfordshire Wildlife*.
- 554th Ordinary Meeting** 5th November, Bedford. Members' evening. Chair: Mr R.B. Stephenson.
- 40th Anniversary Celebration Dinner** 14th November, The Moat House, Bedford.
- 555th Ordinary Meeting** 18th November, Dunstable. "Lichens in Bedfordshire" by Mrs F.B.M. Davies. Chair: Mr D.G. Rands.
- 556th Ordinary Meeting** 26th November, Leagrave. "A camera beneath the waves" by Mr G. Day.  
Chair: Mr V.W. Arnold.
- 557th Ordinary Meeting** 3rd December, Bedford. "A visit to St Kilda" by Miss J. Smith.  
Chair: Mr S. Halton.
- 558th Ordinary Meeting** 16th December, Dunstable. "Bird watching in Northern India" by Mr P. Smith. Chair: Mr B.J. Nightingale.

### Field Meetings

- Woburn Park** 23rd February. A walk along the public footpaths of the park.  
Leader: Mr J.P. Knowles.
- North Bedfordshire** 23rd March. The geology of the north of the county. Leader: Mr G. Osborn.
- Ashridge Forest** 18th April. Badger Watch. Leader: Mr S. Halton.
- River Lea, Luton** 27th April. A walk along the river bank and an opportunity to browse through natural history books at 51 Wychwood Avenue. Leaders: Mr and Mrs D.G. Rands.
- Barton Hills** 4th May. To count the Pasqueflowers. Leader: Mr J. Burchmore.
- Maulden Wood** 11th May. Dawn Chorus. Leader: Mr P. Trodd.
- Flitwick Moor** 15th May. Evening on Flitwick Moor. Leader: Mr J.P. Knowles.
- Norfolk Coast** 18th May. Birdwatching. Leaders: Mr D. Green and Mr J. Burchmore.
- Stewartby Country Park** 28th May. Leader: Mr P. Smith.
- Waterloo Thorns, nr. Tempsford** 1st June. General natural history. Leader: Mr J. Howe.



*John Dony and Chris Boon in Great Hayes Wood during the special 40th anniversary field meeting on 28th June 1986*

*(Photo: Mary Sheridan)*



*Lesser Spearwort *Ranunculus flammula*, Great Hayes Wood, 28th June 1986  
(The larger flower heads are Creeping Buttercup *Ranunculus repens*)*

*(Photo: Chris Boon)*

- Sundon Country Park** 7th June. Identification of wild flowers 1 — Chalk flora.  
Leader: Mr A.R. Outen.
- Harrold-Odell Country Park** 8th June. Bird ringing in action. Leaders: Mr D. Woodhead and Mr P. Wilkinson.
- Maulden Wood** 14th-15th June. Annual all-night meeting and barbeque. By kind permission of the Forestry Commission. Organiser: Mrs E.B. Rands.
- Yorkshire** 20th-22nd June. Annual weekend trip. Leader: Mr V.W. Arnold.
- Coppice Wood, Melchbourne** 27th June. Catching and identifying moths.  
Leader: Mr V.W. Arnold.
- Great Hayes Wood and Forty Foot Lane** 28th June. Special 40th anniversary meeting.  
Leaders: Dr and Mrs J.G. Dony.
- Stockgrove Country Park** 5th July. Identification of wild flowers 2 — Greensand flora.  
Leader: Mr C.R. Boon.
- Redgrave Fen, Suffolk** 6th July. Leader: Mr A. Rivett (Field Officer for N. Suffolk).
- Stockgrove Country Park** 11th July. Mothing evening. Leader: Mr V.W. Arnold.
- Crab Wood, Winchester** 13th July. Leader: Mr R. Revels.
- Stockgrove Country Park** 20th July. Life on/in an oak tree. Leader: Dr B.S. Nau.
- Bison Hill, nr. Whipnade** 3rd August. General natural history. Leader: Mr S. Halton.
- Bromham Mill Reserve** 14th August. General natural history. Leader: Miss R. Brind.
- Old Warden Tunnel Reserve** 17th August. Leader: Mrs H.M. Muir-Howie.
- Harrold-Odell Country Park** 23rd August. Identification of wild flowers 3 — riverside and Oxford Clay flora. Leader: Mr C.R. Boon.
- Longholme Boating Lake, Bedford** 30th August. Pond dipping. Leaders: Dr A.J. Rundle and Mr D.W. Guntrip.
- Shuttleworth Agricultural College** 7th September. One day courses on a variety of natural history subjects. By kind permission of the Principal. Course Organiser: Mrs E.B. Rands.
- Maulden Wood** 14th September. Small mammal trapping. Leader: Mr D.G. Rands.
- Salem Thrift Wood, Bromham Hospital** 28th September. Recording meeting and general natural history. Leader: Mr A.R. Outen.
- Sharpenhoe Clappers area** 26th October. The annual fungus foray. A joint meeting with the Mycological Society. Leader: Dr D.A. Reid.
- Stewartby Lake** 23rd November. Winter bird watching. Leader: Mr A. Tomczynski.
- Bison Hill, nr. Whipnade** 6th December. Magpie count and other wintering birds.  
Leader: Mr P. Trodd.

## REPORT OF THE TREASURER

The current accounts show a loss on the year more or less equal to the profit for the previous year so that we have broken even over the two years.

The Journal remains the major item of expenditure but its quality continues to demonstrate the scientific value of the society. Subscription income continues to rise, up by £230.00 this year, thanks to the work of the Membership Secretary and the recruitment of new members by the work of the Publicity Committee.

Our interest receipts are down on the previous year due to the lower interest rates prevailing, but remain well ahead of inflation so that the assets continue to rise.

The high bank balances at the year end are to give sufficient funds to pay for some book costs, as recently reported at a Special General Meeting, and also because the cheque for the Journal printing costs had not then been cleared. Further investments are planned for the current year.

M.R. CHANDLER

## INCOME AND EXPENDITURE ACCOUNT FOR YEAR ENDED 31st DECEMBER 1986

### INCOME - Current Accounts

1985		1986
£		£
1699	Subscriptions	1928
34	Sales	81
27	Surplus on meetings	51
10	Sundries	20
1770		2080

### EXPENDITURE - Current Accounts

1985		1986
£		£
	<b>ADMINISTRATION</b>	
44	Postage	46
33	Sundries	35
36	Insurance	40
—	Officers' expenses	8
10	Auditors' honorarium	10
123		139
	<b>MEETINGS</b>	
125	Hire of halls	168
37	Lecturers and films	30
153	Programmes	175
315		373
	<b>SCIENTIFIC</b>	
1099	Journal	1339
32	Recorders' expenses	22
9	Site recording	6
15	Sundries	21
1155		1388
	<b>PUBLICITY</b>	
95	Newsletter	166
12	Advertising and displays	25
—	Sundries	16
107		207
	<b>DEPRECIATION</b>	
29	of equipment	12
29		12
+41	Excess of income over expenditure	-39
1770		2080
	<b>PUBLICATIONS ACCOUNT</b>	
922	Brought forward	1024
102	Income	57
—	Expenditure	230
1024		851



	<b>DEPOSIT ACCOUNTS — Interest</b>				525
	City of Nottingham Bonds				506
210	East Staff. D.C. Bonds				212
93	Redbridge Borough Bonds				64
41	Leicester City Bonds				70
—	Worthing Co. Bonds				154
—	Edinburgh City Bonds				127
852	Bank (H.I.C.A.)				355
1721					1488
<b>1985</b>	<b>BALANCE SHEET AS AT 31st DECEMBER 1986</b>				<b>1986</b>
	<b>FIXED ASSETS</b>		<b>COST DEPRECIATION</b>		
			Total	Year	
25	Books and journals		15	5	20
10	Screen	20	12	2	8
40	Malaise and mammal traps	50	15	5	35
—	Projector	60	60	—	—
—	Duplicator and stand	110	110	—	—
				12	63
	<b>CURRENT ASSETS</b>				
69	Bank Current Account				2154
2865	Bank High Interest Cheque Account				4294
48	Cash in hand				33
1000	Leicester City Council Bonds (to 15.5.88 @ 8.875%)				1000
3000	City of Nottingham Bonds (to 30.6.88 @ 10.5%)				3000
3000	City of Nottingham Bonds (to 30.6.87 @ 13.25%)				3000
2500	East Staffs D.C. Bonds (to 10.9.89 @ 12%)				2500
1000	Redbridge Borough Bonds (to 5.8.86)				—
3000	Worthing B.C. Bonds (to 28.11.91 @ 10.75%)				3000
2000	Edinburgh City Bonds (to 31.3.89 @ 10.75%)				2000
18482					20981
249	Debtors				353
	<b>CURRENT LIABILITIES</b>				
41	Creditors (uncleared cheques)				1356
<b>£18765</b>					<b>£19978</b>

M.R. CHANDLER  
Honorary Treasurer

M. & D. READING  
Honorary Auditors

## METEORLOGY

### Report of the Recorder

Although, taking the year as a whole, the weather in 1986 was close to the average in many respects, there were a number of noteworthy features during the year, of which the most striking was an exceptionally cold February, generally the second coldest this century.

The year opened with a spell of cold frosty weather with some snow on a few days. From mid-January the weather was less cold but wetter before turning colder again at the end of the month. This was the start of an extremely cold spell that lasted throughout February until the first days of March. As a result, the mean maximum and minimum temperatures for February were much lower than normal, resulting in the coldest February this century after 1947. Other cold Februaries this century include 1963, 1956 and 1929. Some figures are shown in Table 1 for comparison.

	Highest Max°C	Mean Max°C	Lowest Max°C	Highest Min°C	Mean Min°C	Lowest Min°C	Snow Falling	Snow Lying
<b>1986</b>								
Luton	3.1	0.5	-2.1	1.5	-4.4	-13.7	16	23
Silsoe	3.5	0.4	-3.9	2.0	-5.2	-16.4	14	21
Bedford (1)	2.6	-0.3	-3.9	1.5	-5.0	-13.0	16	23
<b>1963</b>								
Luton	5.0	1.3	-2.2	0.0	-3.7	-11.1	11	28
Silsoe	3.9	0.9	-2.2	0.6	-4.2	-10.6	14	27
Bedford (1)	4.2	0.6	-3.0	-0.3	-3.9	-10.4	—	—
Bedford (2)	5.4	1.5	-2.0	0.3	-3.1	-8.6	17	13
<b>1956</b>								
Luton	11.1	1.7	-5.6	6.1	-4.4	-13.3	18	15
Silsoe	11.1	1.9	-6.7	5.6	-4.7	-12.2	18	13
Bedford (2)	12.2	1.8	-5.0	6.7	-4.2	-12.8	20	15
<b>1947</b>								
Luton	4.4	-0.7	-4.4	0.6	-4.2	-19.4	15	28
<b>1929</b>								
Luton	10.0	2.2	-4.4	7.2	-3.4	-13.9	7	5

NOTE: Bedford (1) refers to RAF Thurleigh (1957-1986)  
Bedford (2) refers to Cardington (1929-1980)

*Table 1. Selected data for the coldest Februaries since 1900*

In February 1986, there were only light though frequent snowfalls, compared with the heavy snow of 1947, but despite this the ground was still snow covered for over 20 days. A further point of difference is that in 1947 (and 1963) the cold February was part of a severe winter as a whole, while in 1986 (and 1956) February was the only extreme winter month.

In 1986, frost occurred on most nights and there were 14 days (half of the days in the month) when the temperature failed to rise above freezing. With the continuously very low temperatures many inland waters froze over including, eventually, the larger parts of Stewartby and Brogborough, usually the last to do so because of the depth of water. With only light snow cover the frost penetrated the ground quite deeply, and at Silsoe for example, the mean soil temperature for the whole month at a depth of 30cms was below 1°C.

The situation that arose in February 1986 clearly shows that effect on weather records when a notable spell of weather coincides with a calendar month (see Figure 1 which shows daily maximum and minimum temperatures for January to March 1986 — February is from day 32 to day 59 inclusive). Had the cold weather started and finished mid-month, it is unlikely that any records would have been set at all. Another example was the very warm July of 1983, reported in the Journal for 1983 (*Bedf. Nat.* 38 8-9).

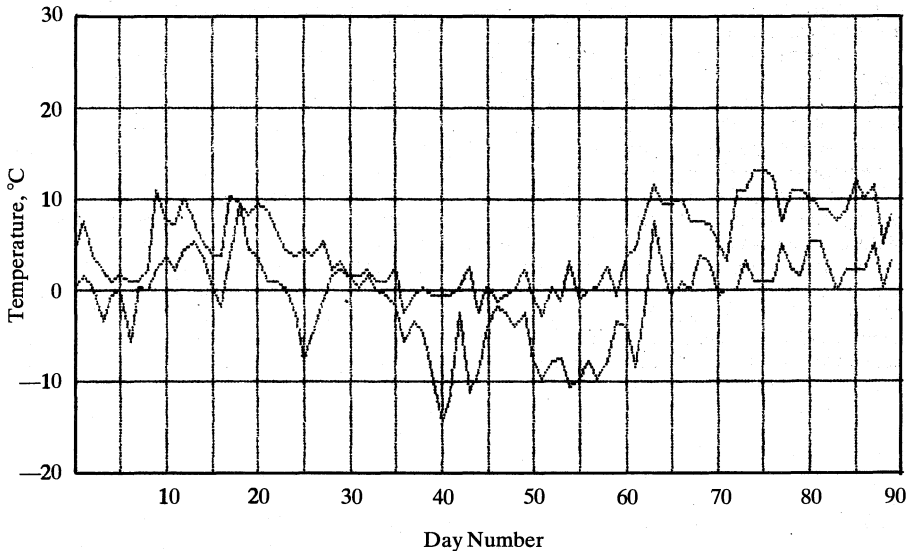


Figure 1. Daily maximum and minimum temperatures at Barton, Bedfordshire, January to March 1986

The so-called spring months (March, April and May) were, in 1986, particularly cold and wet, with April particularly so in this respect; many days of easterly winds resulted generally in the coldest April since 1922. The weather at this time certainly had a marked effect on much of the county's flora and fauna.

Although June started off unsettled, it was then largely both warm and dry ending with four days with temperatures exceeding 25°C (approximately 80°F). After February, June was the driest month of the year with less than a quarter of the normal rainfall in most places. July was less settled, and though there were some warm spells both temperature and rainfall were close to the seasonal averages. August, for many people the main holiday month, was disappointing in 1986, being

	Mean Max°C	Mean Min°C	Highest Temp°C	Lowest Temp°C	Rainfall mm	Sunshine hours	Air Frost	Ground Frost	Snow Falling	Snow Lying
January	6.3	0.6	12.0	-7.3	57.4	66.0	11	18	5	0
February	0.4	-5.2	3.5	-16.4	9.5	58.8	24	25	14	21
March	9.0	1.2	13.0	-6.0	51.7	127.7	8	19	3	1
April	9.6	1.9	4.6	-3.4	60.9	120.0	6	15	5	0
May	15.8	6.7	21.4	2.1	56.2	181.5	0	7	0	0
June	20.1	8.6	27.5	0.9	13.4	206.9	0	2	0	0
July	21.3	11.8	27.5	5.5	38.9	173.5	0	0	0	0
August	18.5	10.3	23.2	4.3	76.4	127.8	0	1	0	0
September	16.8	5.8	20.6	-0.6	33.4	178.4	2	13	0	0
October	15.4	6.9	21.4	-0.9	76.1	109.0	2	4	0	0
November	11.0	4.7	14.6	-0.6	56.0	70.0	1	11	0	0
December	8.9	2.7	14.3	-3.2	55.8	57.7	6	19	2	0
Year	12.8	4.9	27.5	-16.4	585.7	1457.3	60	134	29	22

Table 2. Summary of the weather of 1986 for IER, Silsoe

particularly cool and wet. The mean maximum (day-time temperature) was only 18.5°C (65.5°F), and the highest temperature recorded in the month only 23.2°C (74°F).

In 1986 September failed to prolong summer at all, being quite cool, though mainly dry and sunny. The first frost of autumn occurred on the 9th, and there was a frost on five nights in all. Often the first frost does not occur until mid-October or even later. Not surprisingly, the wind was often from the north or east. Fortunately, September was not a foretaste of things to come and all three remaining months of 1986 were generally mild and wet (particularly October) and there was little frost and hardly any snow.

Table 2 comprises the month by month summary of the year's weather from the AFRC Institute of Engineering Research (formerly the National Institute of Agricultural Engineering). This station, which was established in 1947, is now the principal weather station in Bedfordshire, with the downgrading of the station at RAF Thurleigh, north of Bedford. My thanks go to Mrs R. Taylor at Silsoe, the warden at the Lodge, Sandy and to the Anglian and Lee Valley Water Authorities for kindly providing copies of their records. I am also indebted to Mr A. Hunter of IER, Silsoe, Mr R. Beard of Luton College, Mr P. Eden of Luton and Mr A. Jordan of RAE, Bedford for additional help and information relating to the record weather of February.

MIKE WILLIAMS



*Segenhoe Church near Ridgmont*

*(Photo: Derek Rands)*

## **BOTANICAL ASSESSMENT OF BEDFORDSHIRE'S CHURCHYARDS 1982-1985**

**By C.R. Boon**

### **INTRODUCTION**

A survey of churchyards was initiated by the Botanical Society of the British Isles (BSBI) as a network research project to cover the whole country (Briggs 1981) with the objective of identifying the botanically most important 10% of churchyards and other burial grounds in each county. The results for Bedfordshire were made available to the Beds and Hunts Wildlife Trust for them to approach the relevant authorities so that conservation management plans could be agreed (Boon 1987).

The survey of plants growing in Bedfordshire's churchyards was carried out over a four year period from 1982 to 1985 with most fieldwork being done during the months of May and June, hopefully before too much grass cutting had occurred. This timing resulted in the majority of species likely to be present being noted, although some late flowering species may have been missed. To have ensured a better coverage, each churchyard or burial ground would have had to be visited at least twice and bearing in mind that the total number of sites was well over one hundred, it is clear that more than one visit per site was not practical. To have visited some, but not all, sites more than once would possibly have distorted the final results in favour of those particular churchyards. The data presented here are therefore from single visits only.

The Bedfordshire Natural History Society recorders for both mosses and lichens have visited probably all the churchyards in the county and were able to provide additional information on the presence of noteworthy non-flowering plants. This information was incorporated in the final assessment of the sites visited.

The scoring is presented in two ways, the assessments only differing in the way that the noteworthy species of flowering plant are defined with the BSBI scheme limiting the noteworthy species to those occurring in 15 or fewer sites. Because of the knowledge of the distribution of vascular plants in Bedfordshire (Dony 1976), it was possible to assess the vegetation of the churchyards on a local scale to a greater degree of accuracy, with many more species being taken into account.

In the text whenever the word churchyard is used alone it is implied that burial grounds and cemeteries are also under consideration. Similarly when the term flowering plant is used, this is to be taken to include ferns and fern allies (e.g. horsetails). English and scientific names used in this paper are as shown in Dony, Jury and Perring (1986).

### **SURVEY ASSESSMENT FORM AND NOTEWORTHY SPECIES SCORING**

#### **Botanical Society of the British Isles scheme**

A standard form was prepared by the BSBI to be used in the field, in conjunction with a species record card, to collect the data for the assessment of the sites.

Site identification details, such as church name, grid reference etc., are entered for each churchyard. The first scoring assessment is for the total number of native or naturalised plants recorded on the species record card as being present. The next section's assessment is based on the habitats present. These are first listed, e.g. tombstones, paths, walls etc., and a scoring given for the total number of habitats present. This is followed by a subjective assessment, from 0 to 10, of the quality of the grassland. It is difficult to know whether the scoring for this section was consistent over the four year period of the survey and is, in fact, the only subjective part of the assessment form.

*Address: 7 Duck End Lane, Maulden, Bedford MK45 2DZ*

The next section is entitled Noteworthy Species, and it is here that the difference between the two assessments occurs (see below for the local assessment). A noteworthy species is defined on the form as one that is known from 15 or fewer localities in the county. A scoring is then given (see Table 1) depending on the total number of localities in the county (whether churchyards or not), and in the present survey tetrads have been used instead of localities. If the species is considered to be naturalised in the county then the scoring is halved.

On the back of the form is a section for other botanical features and the information on mosses and lichens was entered here. The next section is for non-botanical features of natural history importance, such as the presence of bats or unusual nesting birds. This section was not used because insufficient data were available for a consistent assessment. Finally, a space was provided for a plan of the churchyard to be sketched.

**Local (Bedfordshire) assessment**

The local noteworthy species were assessed in a parallel exercise, as stated above in the Introduction, by using the information on the tetrad distribution of species in Bedfordshire given by Dony (1976), a tetrad being a 2 x 2km square on the Ordnance Survey. There are 249 tetrads wholly within, and a further 132 with part of their area within the county. The definition of the county boundary from which these figures were derived is based on botanical vice-county and administrative boundaries. The former is fully discussed in Dony (1976). Also taken into account were records acquired since publication of the *Plant Atlas* but not published (Dony, pers. comm). Based on these data a species record card for Bedfordshire's flowering plants has been produced to include all species which occur in 128 or more tetrads and in this survey it is these species which are defined as common.

The scoring for the local noteworthy species, i.e. those in 127 or fewer tetrads, is shown in Table 1 which also shows the BSBI scoring for comparison, with some overlap evident. The main difference between the two is that the local scoring includes many more species and thus gives an assessment that is more relevant to the local situation.

As with the BSBI scheme, naturalised species are scored at half the value of the native species.

Number of tetrads	Local scoring	Number of localities (tetrads)	BSBI scoring
1	7	1 - 2	8
2 - 3	6	3 - 5	6
4 - 7	5	6 - 10	4
8 - 15	4	11 - 15	2
16 - 31	3		
32 - 63	2		
64 - 127	1		

*Table 1. Noteworthy species scoring for the local and BSBI schemes*

**BEDFORDSHIRE'S CHURCHYARDS AND BURIAL GROUNDS**

A list of churchyards and burial grounds was taken from the 1:25,000 and 1:50,000 Ordnance Survey maps. The initial list was compiled on a 10km square basis because each 1:25,000 O.S. map covers a 10km by 10km area. Starting in the south west of the county with square SP92, each churchyard was assigned a number, starting with number 1. The listing finished in the north east in square TL25, giving the total number of sites to be visited as 160. These, with their National Grid references, are listed alphabetically in Appendix 1.

Many churchyards have cemeteries associated with them, sometimes of fairly recent origin.

Where these are contiguous the two were considered as one site and, in general, if the cemetery was remote from the church they were assessed separately. A few nonconformist burial grounds were surveyed, but not all and it is hoped that no important sites have been overlooked. Also some of the urban churchyards in Bedford and Luton were not studied.

## RESULTS OF THE SURVEY OF FLOWERING PLANTS

### Common species

There are 282 species of flowering plant which may be defined as common in the county. During the survey 240 of these were found to occur in churchyards (Boon 1987). Of the 42 not recorded in the survey, 26 require a damp habitat or standing water which would not be expected to be present unless one of the habitat types denoted pond or marsh on the assessment form were present. There were no ponds or marshes noted on any recording sheet.

Several species occurred in only a few sites but the data showed clearly which were the commonest species of Bedfordshire's churchyards. Those occurring in 75% or more sites are listed in Table 2 in order of frequency of occurrence. Of the 24 in this list, which in fact accounts for 10% of the total number of common species recorded, 14 may be said to be species of grassland habitat and there are two shrubs, Elder *Sambucus nigra* and Ivy *Hedera helix*. The remaining eight are species of disturbed ground and are what might be termed weeds.

Species Name	Number of records
Cleavers <i>Galium aparine</i>	151
^ Ribwort Plantain <i>Plantago lanceolata</i>	151
^ Germander Speedwell <i>Veronica chamaedrys</i>	150
^ Crow Parsley <i>Anthriscus sylvestris</i>	149
^ Creeping Buttercup <i>Ranunculus repens</i>	147
^ Daisy <i>Bellis perennis</i>	147
† Ivy <i>Hedera helix</i>	146
† Elder <i>Sambucus nigra</i>	145
^ Cock's-foot <i>Dactylis glomerata</i>	144
Common Nettle <i>Urtica dioica</i>	144
^ Ground-ivy <i>Glechoma hederacea</i>	142
^ Annual Meadow-grass <i>Poa annua</i>	141
Barren Brome <i>Bromus sterilis</i>	139
^ Common Dandelion <i>Taraxacum officinale</i>	139
White Dead-nettle <i>Lamium album</i>	139
^ Yarrow <i>Achillea millefolium</i>	139
^ Red Fescue <i>Festuca rubra</i>	136
^ White Clover <i>Trifolium repens</i>	135
Common Chickweed <i>Stellaria media</i>	132
^ Common Sorrel <i>Rumex acetosa</i>	130
Groundsel <i>Senecio vulgaris</i>	129
^ False Oat-grass <i>Arrhenatherum elatius</i>	126
Shepherd's-purse <i>Capsella bursa-pastoris</i>	125
Creeping Cinquefoil <i>Potentilla reptans</i>	120

Table 2. Flowering plants occurring in 75% or more of the churchyards

^ — grassland species  
† — shrubs

## Noteworthy species

Using the criteria for local noteworthy species, 147 were recorded (Boon 1987). However thirteen of these are not permanent members of the flora of the county and are classed as casuals. These species were not taken into account, leaving 134 species for the assessment of the sites.

The noteworthy species that occur in 15 or fewer tetrads, that is those that are relevant to the BSBI scoring, total 15 and are listed in Table 3 in order of rarity in the county. These are, of course, the fifteen rarest species recorded during the survey. In particular, the Pink Purslane *Montia sibirica* was discovered during the survey in Amptill churchyard. It had been recorded in the county only once before, as a garden weed, in about 1950. It is, of course, a naturalised species and therefore only attracts a half-score. The Subterranean Clover *Trifolium subterraneum* occurs as a native in only three tetrads in the county although it has been recorded in several other tetrads as an introduced species. It is one of the many wool adventives that have been recorded in Bedfordshire but its presence in Sandy Cemetery is undoubtedly a native occurrence.

	Species Name	Number of county tetrads	Number of sites	Species scoring local	Species scoring BSBI
*	Pink Purslane <i>Montia sibirica</i>	1	1	3.5	4
	Keeled-fruited Cornsalad <i>Valerianella carinata</i>	3	1	6	6
	Subterranean Clover <i>Trifolium subterraneum</i>	3	1	6	6
*	White Comfrey <i>Symphytum orientale</i>	4	1	2.5	3
*	Cypress Spurge <i>Euphorbia cyparissias</i>	6	1	2.5	2
*	Shining Crane's-bill <i>Geranium lucidum</i>	7	5	2.5	2
*	Fox-and-cubs <i>Hieracium aurantiacum</i>	9	4	2	2
*	Caper Spurge <i>Euphorbia lathyris</i>	10	3	2	2
	Buck's-horn Plantain <i>Plantago cornopus</i>	12	2	4	2
	Hawkweed <i>Hieracium strumosum</i>	13	1	4	2
	Wild Clary <i>Salvia verbenaca</i>	13	2	4	2
	Knotted Clover <i>Trifolium striatum</i>	14	1	4	2
*	Small Balsam <i>Impatiens parviflora</i>	14	1	2	1
	Heather <i>Calluna vulgaris</i>	15	1	4	2
	Wall Lettuce <i>Mycelis muralis</i>	15	1	4	2

Table 3. Noteworthy species of flowering plant applicable to the BSBI assessment

\* — not native

The Keeled-fruited Cornsalad *Valerianella carinata* was recorded from the churchyard wall at Tingrith in the same situation as it was first recorded in the *Flora of Bedfordshire* (Dony 1953). It was present in very small quantity and it is possible that it may no longer be there. It is to be hoped that the record in the present survey was not the last at that site. Indeed it may be extinct in the county, since its presence in the other two tetrads recorded by Dony (1976) is now doubtful. The next five species from Table 3 are all naturalised with the Shining Crane's-bill *Geranium lucidum* having the majority of its stations in the churchyards of the county.

Of the rest of the local noteworthy species occurring in 16 or more tetrads perhaps the most pleasing was the number of records for Meadow Saxifrage *Saxifraga granulata*, with about a quarter of the stations in the county being in churchyards. As was suggested in Dony (1953), Pellitory-of-the-wall *Parietaria judaica* was then frequently recorded in churchyards and this was still shown to be true in the present survey as it was recorded from 30 sites, which accounts for about 70% of records in the county (43 tetrads). This may be truly said to be a characteristic species of Bedfordshire churchyards.



Site number	Site name	Total number of species	Noteworthy species		Number of habitats	Grassland quality (out of 10)	Assessment positions	
			local	BSBI			local	BSBI
60	Ampthill	90	16	2	6	4	3	3=
15	Aspley Guise	86	16	2	5	8	1	3=
89	Bedford (Cemetery)	142	19	1	5	8	2	2
79	Biddenham	79	8	—	5	5	19=	14=
126	Biggleswade (Cemetery)	88	8	1	4	5	14=	18=
92	Bromham	96	13	1	4	6	6	6=
64	Clophill (Old Church)	108	6	—	5	5	25=	12=
50	Dunstable (Cemetery)	131	10	—	2	3	14=	—
82	Elstow	85	13	2	3	6	7	6=
16	Eversholt	99	5	—	5	7	22=	12=
67	Flitwick	64	6	1	5	5	24	14=
141	Great Barford	102	8	—	4	7	12	14=
32	Harrod	101	9	—	4	6	13	18=
119	Henlow	103	2	—	6	6	—	14=
8	Leighton Buzzard	84	3	—	5	4	—	18=
113	Luton (Church Cemetery)	156	18	1	5	5	5	6=
71	Maulden	73	6	—	6	5	—	18=
72	Millbrook	75	5	—	3	5	17=	—
130	Northill	80	8	—	4	5	14=	—
96	Oakley	90	8	—	4	3	19=	—
104	Pertenhall	86	8	2	5	5	11	6=
155	Potton	79	10	1	4	7	8	11
134	Sandy (Cemetery)	67	11	3	3	10	4	1
123	Shillington	107	6	—	6	6	17=	6=
135	Southill	75	6	—	5	2	22=	—
76	Tingrith	85	4	1	5	4	21	5
37	Turvey	72	8	—	4	5	10	18=
38	Turvey (Cemetery)	72	3	—	3	6	—	18=
77	Westoning	78	5	—	6	5	25=	18=
46	Whipsnade	81	12	—	5	6	9	18=

Table 4. Some assessment details of the 30 most important churchyards in Bedfordshire.

Only three other native noteworthy species have more than 25% of records in churchyards. First is Rue-leaved Saxifrage *Saxifraga tridactylites* which was noted as frequently occurring in churchyards (Dony 1953). In the present survey 40% of the county's records for this species were shown to be in churchyards. This is, perhaps, not surprising as the habitats required are walls or dry stony places. Next, and perhaps somewhat surprisingly, is Fiddle Dock *Rumex pulcher* with about 33% of records in churchyards. This species occurs mainly in southern Britain and it requires, in general, dry sunny habitats on sandy soils. Certainly churchyards are often dry but as no data were taken on the soils or geology of sites surveyed, it was not possible to correlate records of this species with sandy soils. The third species of this select group is Intermediate Polypody *Polypodium interjectum*. This is a fern which frequently grows on rocks and walls and finds many churchyard walls to its liking.

#### ASSESSMENT OF BEDFORDSHIRE'S CHURCHYARDS

Appendix 1 gives the assessment totals for all the 160 churchyards and burial grounds visited during the survey. The scoring for both the BSBI and local schemes for the flowering plants is given. Included in the assessment is a combined score for the lichens and mosses, the data for which are derived from the information supplied by the local recorders. As stated in the Introduction the object of the survey was to discover the top 10% of the county's churchyards which implies a final

choice of 16. Because of the two scoring systems used and to ensure that important sites were included and because some sites had equal scores, it was decided to consider the top 25 or so churchyards under each scheme. The BSBI list includes four churchyards which do not appear in the local list whilst, in the reverse situation, there are five sites. The total number of churchyards is thus 30 which are listed in alphabetical order in Table 4 which shows, with some of the assessment details, the positions of the churchyards in each assessment scheme.

It is interesting to note that the top four sites are the same for both assessments but they are placed in different sequences. These are, in alphabetical order, Amphill, Aspley Guise, Bedford Cemetery and Sandy Cemetery, three of which it may also be noted occur on the Greensand. It is clear that these four sites must be considered urgently with regard to conservation management.

The fifth churchyard in the BSBI assessment, Tingrith, with the presence of Keeled-fruited Cornsalad, was only 21st in the local assessment. Of the 85 species recorded only the cornsalad had a high score with three other species adding three points to the local noteworthy species total of nine (six under the BSBI scheme). This added value of only three to the local assessment is the reason why this site came low in the local scoring.

One variable which affects the number of species in a site is the area. For instance, Bedford Cemetery (about 11 hectares) had 142 species, of which 19 came under the local noteworthy heading, whilst many of the smaller churchyards had well under a hundred species. Luton Church Cemetery (about 6 hectares) had 156 species (18 noteworthy). However, similar scoring from Bromham churchyard, whose area is only about 0.6 hectare, was based on 96 species including 13 noteworthy ones. Thus area cannot necessarily be considered a sole criterion for high assessment.

Without further detailed study of each churchyard it is not possible to describe each in enough detail to give accurate reasons for the assessments. Study of the site forms indicate, as is to be expected, variations in the number and types of habitats present which, added to the subjective quality assessment of the grassland, all play their part in the diversity of the sites.

From the data presented it would be possible to return to carry out a more detailed survey of the 30 selected churchyards. For the present the survey has succeeded in identifying the more interesting churchyards in the county from a floristic standpoint. These 30 churchyards, as is shown in Figure 1, indicate rather a gap in the north of the county. The 10km square TL03 has the most with seven, four of which are on the Greensand.

If Figure 1 is compared with the geology of the county it appears that the majority of the interesting churchyards are associated with either the Greensand or the Chalk. The general flora of these two regions are the most rich in Bedfordshire and it is perhaps inevitable that the assessments should reflect this fact.

**CONCLUSIONS**

This paper presents some of the results of a survey conducted to determine the botanically most important churchyards and burial grounds in Bedfordshire. Visits were made to 160 sites

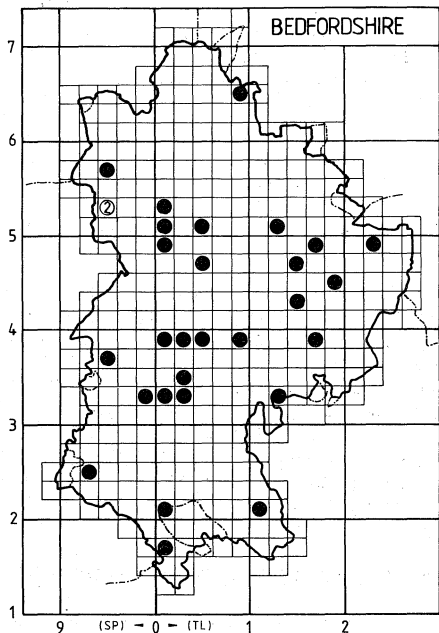


Fig.1 The distribution of the 30 most important churchyards in Bedfordshire (two sites in SP95L)

and the data acquired have allowed a list of 30 churchyards to be given which are worthy of consideration for conservation management plans. This is almost twice as many as in the original plan but, within a county as agriculturally biased as Bedfordshire, this was considered to be of value to ensure all relevant sites were identified.

### ACKNOWLEDGEMENTS

Without doubt this report could not have been written without the fieldwork conducted by John and Chris Dony. During the four years of the survey they visited nearly all the sites. On several occasions John was accompanied by the late Horace Souster. Thanks are due to Beryl Rands and Graham Dennis for their help with obtaining some records. Also I would like to thank Frances Davies for the lichen records and Alan Outen for the records of mosses.

### REFERENCES

- BOON, C.R. 1987 *Churchyard Botanical Survey in Bedfordshire, 1982-1985* Published privately 48 pp.  
 BRIGGS, M. 1981 Churchyards and other burial grounds *BSBI News No. 29* December 1981 23-24.  
 DONY, J.G. 1953 *Flora of Bedfordshire* Corporation of Luton Museum and Art Gallery 532 pp.  
 DONY, J.G. 1976 *Bedfordshire Plant Atlas* Borough of Luton Museum and Art Gallery 132 pp.  
 DONY, J.G., JURY, S.L., PERRING, F.H. 1986 *English Names of Wild Flowers* (Edition 2) Botanical Society of the British Isles 117 pp.

#### *Appendix I. Botanical assessment details of the churchyards of Bedfordshire with National Grid References*

Site name	Grid Reference	Site Number	Assessment excluding species	Lichens and Mosses	Species assessment		Total assessment	
					BSBI	local	BSBI	local
Amphill	TL037383	60	10	2	6	23.5	18	35.5
Arlesey	TL192376	114	9			3.5	9	12.5
Aspley Guise	SP942363	15	13		5	26	18	39
Astwick	TL214386	147	4			3	4	7
Barton	TL085304	61	6	3		3.5	9	12.5
(Cemetery)	TL085303	62	6			4.5	6	10.5
Battlesden	SP959291	1	8			3.5	8	11.5
Bedford (Cemetery)	TL049513	89	16		3	22	19	38
Biddenham	TL014499	79	10	2		8.5	12	20.5
Biggleswade	TL188446	125	5			9	5	14
(Cemetery)	TL198449	126	9		2	12.5	11	21.5
Billington	SP940226	2	4				4	4
Bletsoe	TL023583	90	7	1		2	8	10
Blunham	TL153512	138	7			5	7	12
(Cemetery)	TL147508	139	4			0.5	4	4.5
Bolnhurst	TL081587	91	9	1		3	10	13
Bromham	TL014513	92	11	1	3	17.5	15	29.5
Caddington	TL064198	43	6	1		1.5	7	8.5
Campton	TL130381	115	6			11	6	17
Cardington	TL086479	80	4			2	4	6
(Cemetery)	TL085479	81	5			6	5	11
Carlton	SP952548	29	10			7.5	10	17.5
Chalgrave	TL009274	48	4			3.5	4	7.5

Site name	Grid Reference	Site Number	Assessment excluding species	Lichens and Mosses	Species assessment		Total assessment	
					BSBI	local	BSBI	local
Chellington	SP954553	30	4			2	4	6
Clapham	TL034525	93	8			8	8	16
Clifton	TL166393	116	5			2	3	8
Clophill (Old Church)	TL090382	63	2				2	2
Cockayne Hatley	TL092388	64	12	1		5	13	18
Colmworth	TL255496	150	9			3	9	12
Cole	TL109586	140	6			6	6	12
Cranfield	TL103484	127	6			4	6	10
	SP955420	26	6			2	6	8
Dunstable (Cemetery)	TL021219	49	7			9.5	7	16.5
Dunton (Cemetery)	TL012215	50	9			12.5	9	21.5
	TL238442	151	4				4	4
	TL238442	152	6			0.5	6	6.5
East Hyde	TL128173	110	10			3.5	10	13.5
Eaton Bray (Cemetery)	SP970207	4	5				5	5
	SP979203	5	7				7	11
Edworth	TL222407	153	2			4	2	4.5
Eggington	SP956252	3	5			2.5	5	5
Elstow	TL049474	82	10				5	5
Eversholt	SP983325	16	13			5	19	29
Everton	TL203513	160	8	1		6.5	13	19.5
Eyeworth	TL250456	154	5			8	9	17
						2	5	7
Farndish	SP928637	39	3				3	3
Felmersham	SP991579	31	6	1		4	7	11
Flitton (Cemetery)	TL059359	65	7			7.5	7	14.5
	TL061358	66	4			2.5	4	6.5
Flitwick (Cemetery)	TL029343	67	10	2		7	12	19
	TL030343	68	4			3	4	7
Goldington	TL076510	94	6	1		1.5	7	8.5
Gravenhurst, Lower	TL111352	117	7	1		7.5	8	15.5
Gravenhurst, Upper	TL113360	118	3			0.5	3	3.5
Great Barford	TL134517	141	12			11	12	23
Harlington (Burial Ground)	TL038306	69	6			2.5	6	8.5
	TL039307	70	7				7	7
Harrold	SP954567	32	11			11.5	11	22.5
Haynes	TL081412	83	9			5.5	9	14.5
Heath and Reach	SP925277	6	8			0.5	8	8.5
Henlow	TL178388	119	12			3	12	15
Higham Gobion	TL104328	120	6			4	6	10
Hockliffe	SP966270	7	5				5	5
Houghton Conquest	TL043414	84	6			2	6	8
Houghton Regis	TL018239	51	4			1	4	5
Hulcote	SP944388	17	2				2	2
Husborne Crawley	SP956362	18	5			1	5	6
Kempston (Cemetery)	TL015480	85	6			0.5	6	6.5
	TL013478	86	9			1.5	9	10.5
Kensworth	TL031190	44	6	1		4.5	7	11.5
Keysoe	TL074625	101	7			2	7	9
Knotting	TL003635	102	4				4	4

Site name	Grid Reference	Site Number	Assessment excluding species	Lichens and Mosses	Species assessment		Total assessment	
					BSBI	local	BSBI	local
Langford	TL185414	128	6			8	6	14
Leighton Buzzard	SP919249	8	9	2		2.5	11	13.5
(Cemetery)	SP930259	9	5			5	5	10
Lidlington	SP992388	19	6			3	6	9
Linslade (Beds.)	SP910268	10	8	1		8	9	17
Little Barford	TL177569	142	5			3	5	8
Little Staughton	TL107630	145	9			2	9	11
(Burial Ground)	TL109620	146	8			2	8	10
Luton (Biscot)	TL076238	53	7			2	7	9
(Cemetery)	TL085210	54	5			3	7	12
(Church Cemetery)	TL102212	113	13			2	20.5	15
(St. Mary's)	TL095213	52	3			2	7	5
(Stopsley)	TL102237	112	5			2	5	7
(The Vale)	TL108245	111	4				10.5	4
								14.5
Marston Moretaine	SP996411	27	5			3.5	5	8.5
Maulden	TL058381	71	10	1		6.5	11	17.5
Melchbourne	TL029655	103	4	1			5	5
Meppershall	TL135359	121	6			5.5	6	11.5
Millbrook	TL013385	72	9			12	9	21
Milton Bryan	SP971308	20	6			2	6	8
Milton Ernest	TL020561	95	3	2		2	5	7
Mogerhanger	TL142494	129	3				3	3
Northill	TL149465	130	9			12.5	9	21.5
(Cemetery)	TL149466	131	4			8	4	12
Oakley	TL010530	96	8			12.5	8	20.5
Odell	SP967580	33	8			2.5	8	10.5
Old Warden	TL137444	132	6	1		6.5	7	13.5
Pavenham	SP992559	34	8	1		5.5	9	14.5
Pertenhall	TL084654	104	10		5	14	15	24
Podington	SP942627	40	9	1		3	10	13
Potsgrove	SP952298	11	3			1	3	4
Potton	TL228495	155	11	1	2	16	14	28
(Cemetery)	TL214491	156	4			10.5	4	14.5
Pulloxhill	TL062337	73	5	2		2.5	7	9.5
Ravensden	TL078543	97	8			1	8	9
Renhold	TL089529	98	10			5.5	10	15.5
Ridgmont	SP976360	21	4			3	4	7
(Segenhoe)	SP981358	22	8			6	8	14
Riseley	TL039631	105	5			1	5	6
Roxton	TL153545	143	6			4.5	6	10.5
Salford	SP936391	23	3			2	3	5
Sandy	TL174491	133	4			5	4	9
(Cemetery)	TL180487	134	13		10	22	23	35
Sharnbrook	SP994596	35	10			3	10	13
Shefford	TL143391	122	6			3	6	9
Shelton	TL034688	106	8			2.5	8	10.5
Shillington	TL123339	123	12	3		6	15	21
Silsoe	TL083356	74	8			6.5	8	14.5
Souldrop	SP985616	41	7			2	7	9
Southill	TL146423	135	7	3		9.5	10	19.5
Stagsden	SP982491	28	6			2	6	8

Site name	Grid Reference	Site Number	Assessment excluding species	Lichens and Mosses	Species assessment		Total assessment	
					BSBI	local	BSBI	local
Stanbridge	SP966243	12	4					
Steppingley	TL011355	75	9			0.5	4	4.5
Stevington	SP991536	36	6			5.5	9	14.5
Stotfold	TL220367	148	3			8.5	6	14.5
(Cemetery)	TL225370	149	9			3.5	3	6.5
Streatley	TL070286	55	6			7.5	9	16.5
Studham	TL016160	45	6			1.5	6	7.5
Sundon	TL048269	56	5				6	6
Sutton	TL219475	157	5			2	5	7
Swineshead	TL058659	107	7	1		6	6	12
						6.5	7	13.5
Tempsford	TL162531	144	6	1		8.5	7	15.5
Thorn	TL000248	59	3				3	4
Thurleigh	TL052585	99	6	2		1	8	10.5
Tilsworth	SP975243	13	3			2.5	3	3.5
Tingrith	TL007324	76	9	2		0.5	9	20
Toddington	TL010290	57	6		6	9	17	20
(Cemetery)	TL012290	58	8				6	6
Totternhoe	SP989209	14	6			4	8	12
Turvey	SP940525	37	9	2		4.5	6	10.5
(Cemetery)	SP942529	38	10	1		14	11	25
						2.5	11	13.5
Upper Caldecote	TL167459	136	3				3	4.5
Upper Dean	TL047677	108	5			1.5	5	9
Upper Stondon	TL150355	124	7			4	7	9
						2	7	9
Westoning	TL028328	77	10	1		7	11	18
(Burial Ground)	TL030327	78	4				4	4
Whipsnade	TL011179	46	11				4	4
Wilden	TL094552	100	9	1		16	11	27
Willington	TL107498	137	6			2.5	10	12.5
Wilstead	TL063435	87	10			7.5	6	13.5
Woburn	SP950332	24	6			7.5	10	17.5
(Cemetery)	SP949332	25	8			4.5	6	10.5
Woodside	TL081188	47	5			4.5	8	12.5
Wootton	TL004451	88	7				5	5
Wrestlingworth	TL259474	158	5	1		2	8	10
(Cemetery)	TL260473	159	6			2	5	7
Wymington	SP955644	42	9			3	6	9
						8.5	9	17.5
Yeldon	TL011672	109	6			1	6	7

## **THE EFFECTS OF RECREATIONAL ACTIVITY ON WINTERING WILDFOWL POPULATIONS AT PRIORY PARK LAKE, BEDFORD**

**By D. Kramer**

The extraction of river gravels in Bedfordshire has been carried out for centuries but did not assume any great proportions until the Second World War when large amounts were required for the construction of runways at Thurleigh and Cranfield. The construction of the M1 motorway, the creation of Milton Keynes and the building expansion at Northampton increased the demand in recent times. In some cases important marsh and damp meadow habitats were destroyed but the resulting flooded gravel pits created new habitats which many animals and plants have been able to colonise and which now form important natural history sites in the county.

The creation of these gravel pit lakes in Bedfordshire has occurred at a time when the demand for water space has risen rapidly due to the increase in popularity and number of water-based recreational activities. The lakes provide suitable sites for fishing, sailing, wind surfing, water ski-ing, swimming, shooting, sub-aqua, rowing and natural history as well as other informal activities around the edges such as dog walking, picnicking and walking. Before 1960 the number of people taking part in sailing and water ski-ing was relatively low but since then it has increased more than seven-fold. During the 1970s the number of people taking up bird watching as a hobby also increased dramatically. For example, in 1969 the membership of the R.S.P.B. was 200,000 but now, 1987, stands at about 500,000. The pressure caused by water-based activities could, under certain circumstances, have an adverse effect on wildlife and reduce sites available to bird watchers and other naturalists or at least degrade the quality of bird watching.

As the demand for access to water areas is so great, it is only to be expected that conflicts will occur between sporting and wildlife interests and it is important that the decisions made in resolving these conflicts are based, as far as possible, on accurate information. Opinions resulting from casual observations and impressions must be treated with caution.

It is only recently that any attention has been paid to the effect of recreational activities on wintering wildfowl and the surveys that have been carried out have been mainly concerned with water areas that are many times larger than those found in Bedfordshire. It is not surprising that the results of these studies showed that if activities such as water ski-ing took place at one end of one of these very large water areas it had little effect on wildfowl on the same water but over a mile away. Very little work has been carried out on smaller bodies of water and there is a need for more information in this respect for it is on the medium and smaller sized water areas that the effects of recreational activities will be greatest and more conflicts of interest likely to occur. This paper is an attempt to fill this gap and discusses both the short-term and long-term effects.

The study area was Priory Park Lake, formerly known as Barkers Lane Gravel Pit, and lies adjacent to the River Great Ouse on the east side of Bedford. In 1979 a 25 hectare lake, roughly oval, was created out of the old gravel workings with an island, approximately 120m x 25m, in the centre. Two interconnecting small lakes, each about 2.5 hectares, lie adjacent to the main lake to the north-east and the most westerly of these contains several small islands which are covered with mature willows.

### **SHORT-TERM EFFECTS**

#### **INTRODUCTION**

During the winter of 1982-1983 it was decided to create a disturbance-free zone on the southern portion of Priory Lake from November to February, to see if the wintering wildfowl would use it as a refuge. Public access along the shoreline bordering this zone was also closed. This provided an opportunity to compare the effects of recreational activities on the lake before and during zoning.

*Address: 7 Little Headlands, Putnoe, Bedford MK41 8JJ*

Two visits per day were made on thirty-nine occasions between 18th September 1982 and 28th February 1983. The lake was first visited in the early morning between 0630 and 0800hrs GMT and the wildfowl were counted before any activity took place either on the shore of the lake or on the water surface. At the start of the survey a further count was made at the end of the morning period in order to assess the effect of activities on the shore, e.g. dog walking and fishing. This was discontinued after it was found that these activities rarely had any effect at all. A second visit was made on each sample day between 1500 and 1630hrs GMT and a count made during sailing or as soon as sailing activities had ceased, or at about 1600hrs GMT on days when no sailing took place.

Of the thirty-nine days, seventeen were disturbed by the sailing activities and twenty-two were undisturbed. There were nine days of observation before the zoning experiment was started.

### LAKESIDE ACTIVITIES

People walking, jogging, fishing or dog walking along the lakeshore had virtually no effect at all. On only three occasions was any disturbance noted. On two of these occasions a dog-owner deliberately sent a dog into the water to disturb a flock of duck. On a third occasion the sudden movement of a person breaking into a fast run caused a party of ten Goldeneye to depart from the lake.

### BEHAVIOUR OF SPECIES

**Great Crested Grebe *Podiceps cristatus*** Before Zoning: On undisturbed days the number of this species remained the same throughout the day. On two of the nine sample days when sailing took place all the Great Crested Grebes departed, on four days some departed and on three days there was no reduction in numbers.

During Zoning: During this period the numbers present during sailing were either the same as, or greater than the numbers present before sailing commenced.

**Canada Goose *Branta canadensis*** Priory Lake has no resident population and those which visited the lake in the early morning frequently departed for no obvious reason. It is difficult, therefore, to discriminate between reductions caused by disturbance and those caused by normal behaviour patterns. As this species was present on only one occasion when sailing took place during the period of zoning, the results cannot be said to have any significance, but, on this occasion, the flock was obviously alarmed by the first boat to be launched and departed immediately.

**Wigeon *Anas penelope*** Before Zoning: No significant numbers were present as the main flock did not arrive until the end of November.

During Zoning: On undisturbed days the number of birds present on the lake in the afternoon was very similar or slightly lower than the morning count. On disturbed days there was an initial period of five weeks when the sailing caused some reduction in numbers, but during January and February the numbers present during the afternoon sailing activities were often higher than the morning pre-disturbance count.

**Teal *Anas crecca*** Before Zoning: This was probably the most sensitive of all species before zoning, and it was noted that the launching of a single sailboard was sufficient to cause their departure.

During Zoning: On undisturbed days the afternoon count was usually higher than in the morning. On seven of the nine days when Teal were present and sailing took place the number present during the sailing was higher than the pre-sailing count, following a similar pattern to the undisturbed days. Thus, during the zoning period, sailing does not seem to have affected the normal behaviour of the species.

**Mallard *Anas platyrhynchos*** (Figure 1) Before Zoning: On undisturbed days the numbers present in the late afternoon were usually higher than the morning pre-disturbance total. Sailing during this period resulted in almost total desertion of the lake.

During Zoning: On both disturbed and undisturbed days the pattern was similar to undisturbed days before zoning with the number of birds present being higher during the afternoon than in the morning.



**Pochard *Aythya ferina* (Figure 2) Before Zoning:** On undisturbed days the numbers remained relatively constant throughout the day with a slight increase in the afternoon, but sailing resulted in total desertion of the lake.

**During Zoning:** Sailing continued to cause total desertion during the first month of the zoning but after this period birds remained on the lake whilst sailing took place. Again, the afternoon numbers were slightly higher than the pre-sailing count.

**Tufted Duck *Aythya fuligula* (Figure 3) Before Zoning:** Sailing during this period caused total departure.

**During Zoning:** Again, there was a period during the first month of zoning when all birds departed when sailing took place. However, as with some other species, it became more tolerant from the beginning of December, but numbers fluctuated on both disturbed and undisturbed days suggesting that other factors were involved. One of these factors could have been the proximity of the adjacent small lakes as it was noted that this species was, with the Great Crested Grebe, one of the species which regularly moved to these from the main lake when disturbed by sailing.

**Goldeneye *Bucephala clangula* Hume (1976)** observed that Goldeneye were especially sensitive to people on the shore. This was not seen in this study, nor in subsequent observations. This species remained in the refuge zone during sailing activities. The only occasion disturbance was observed was when a person on the lakeside suddenly broke into a fast run and put up a party of ten. They returned the following day.

**Coot *Fulica atra* Before Zoning:** None were present.

**During Zoning:** Remained on the lake or, more usually, on the bank during sailing activities and on undisturbed days. When disturbed from the bank by people walking around the lake they simply moved on to the water and clambered back onto the bank to feed when the danger passed.

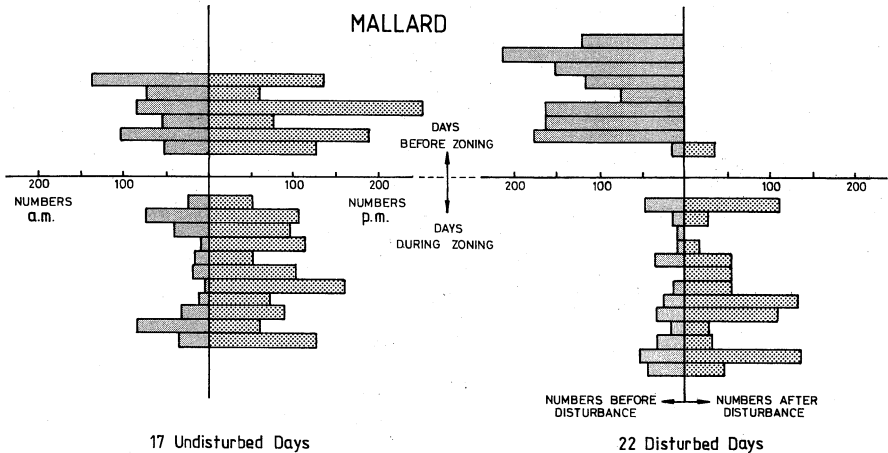


Figure 1. The numbers of Mallard before and after zoning on undisturbed and disturbed days (winter 1982/83)

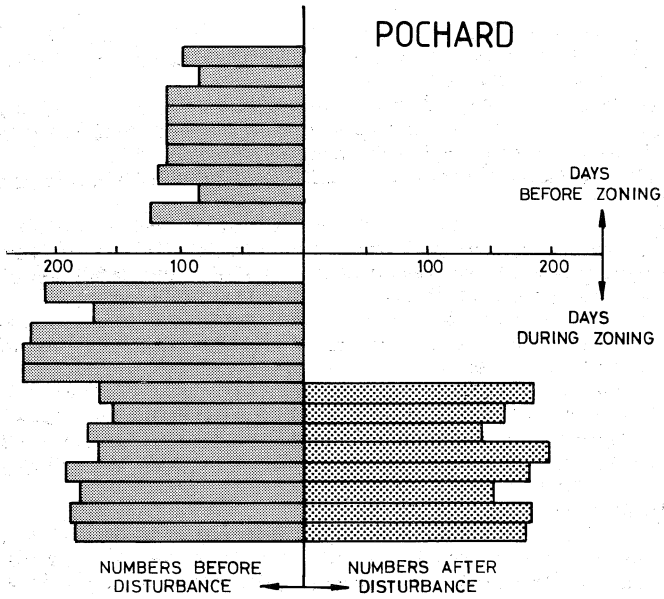


Figure 2. The numbers of Pochard before and after zoning on the 22 disturbed days (winter 1982/83)

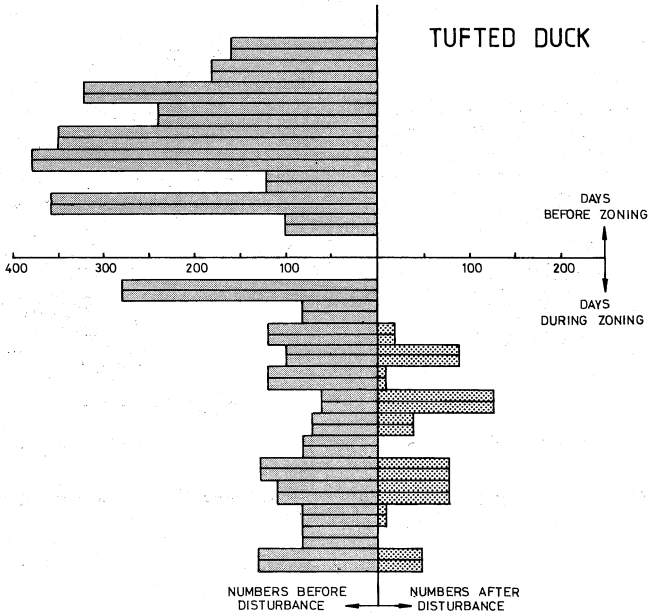


Figure 3. The numbers of Tufted Duck before and after zoning on the 22 disturbed days (winter 1982/83)

## DISCUSSION

During the period before the zoning of sailing activities a low level of disturbance resulted in total or near total departure of all water birds. This differs greatly from the findings of Summers-Smith (1977) at the much larger Scaling Dam Reservoir, who concluded that the introduction of sailing had no significant effect on the numbers of wintering wildfowl.

During the pre-zoning period observation showed that some species such as Teal took flight as soon as a single sailboard or dinghy was launched, and others such as Pochard and Tufted Duck followed as soon as the craft approached within about 80m of the flocks. Whereas most species temporarily left the area, Tufted Duck and Great Crested Grebe usually settled on the adjacent small lakes or river. The adjacent small lakes at Priory Park served a useful purpose in providing a refuge for these two but were possibly too small to accommodate large Pochard flocks.

On undisturbed days during this period there was rarely any large decrease in the number of water birds during the day and there was often an increase. It was noted that, having been disturbed on one day, the numbers of water birds present on the following morning were similar to or greater than those of the previous day. It seems probable that many were the same individuals which had returned since the flock sizes of the different species remained very similar. The gradual decline in numbers some wildfowl as a result of the introduction of sailing noted by Parr (1974) at Barn Island Reservoir, Surrey, did not occur at Priory Park Lake during the period of study.

In some species, e.g. Pochard and Tufted Duck, birds continued to be disturbed by sailing for several weeks (five weeks in the case of Pochard) after the refuge zone had been in operation. This suggests that learning took place, with the birds learning to recognize the disturbance-free zone. It is possible that if sailing took place more frequently during the early part of the zoning experiment, the wildfowl might learn more rapidly to recognize the disturbance-free zone. The opposite may also be true — with increased sailing activity during this period the wildfowl may be prevented from habituating to disturbance. No work has yet been carried out which might help to answer this question.

## LONG-TERM EFFECTS

Most of the studies carried out on the effects of recreational activities on wintering wildfowl populations have been concerned with the short-term effects whilst the long-term effects have seldom been considered. Figures for the wintering wildfowl populations during the last seven winters (1979/80 to 1985/86) are available and thus some comments can be made based on these data.

The winter of 1982/83 was chosen as the "standard year" and the population for each wildfowl species was given an index of 100. An index was calculated for each of the three months, December, January and February. These were chosen because some species do not normally arrive until the end of November and usually decline rapidly towards the end of February. From these figures a single population index was then calculated for the whole winter period for each species and these are shown in Figure 4.

From Figure 4 it can be seen that the population indices of Wigeon, Mallard and Teal were variable and showed no clear trend towards a gradual increase or decline. The winter of 1981/82 was exceptionally cold, December being the coldest on record, and it is not surprising that wildfowl numbers were unusually high during that period. During 1981 and 1982 there was also an exceptional growth of Canadian Waterweed *Elodea canadensis* which, in turn, would result in a high invertebrate population. These conditions would encourage high numbers of both diving and dabbling ducks.

The population indices of Pochard, Tufted Duck and Coot, on the other hand, showed an almost continuous decline. It will be noted that there is a difference in the feeding habits of these two groups, the first being surface feeders or grazing ducks whilst the second group usually dive for their food.

The results during the seven years covered by this study show that, in a zoned situation, sailing has had no long-term effect on Wigeon, Mallard and Teal. The fact that the species which have

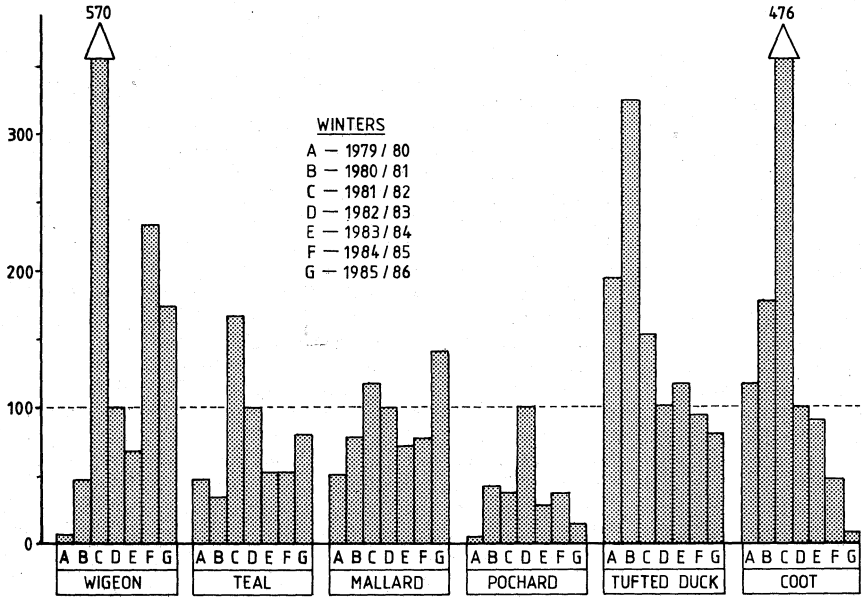


Figure 4. The population indices of some common wildfowl at Priory Park Lake during the winters 1979/80 to 1985/86 (Population index 1982/83 = 100)

shown a decline are all birds which dive for their food suggests that this may be connected with food availability and not directly connected with sailing activities. No study has been carried out on the availability of food for the wintering duck populations at Priory Park Lake. Decline in food availability could be caused by the natural succession in the lake but the weather may also be a factor. In a shallow gravel pit lake the prevailing winds could disturb the bottom layers, particularly during strong winds or gales, and aquatic plants would not get established so easily. It is also possible that when sailing activities are at a peak during the summer months the lake flora and fauna are affected in a similar way. Thus the food of the diving species is indirectly affected. The effect of these possible disturbances may depend on the extent of the gravel extraction. If a gravel layer was left at the bottom of the lake before flooding this would have a greater stabilising effect than if all the gravel down to the clay beneath had been removed.

Unfortunately no study has been carried out on the effect of either weather conditions or sailing activities on the lake flora or fauna or the effects of other factors such as the changes in fish populations.

It will be interesting to monitor the wintering duck populations at Priory Park Lake during the next ten years. Any information which would enable us to resolve some of the problems that this study has revealed would be not only interesting but useful in determining the effects of Man's activities on water areas. The use of these areas can then be regulated to the benefit of all.

**REFERENCES**

HUME, R.A. 1976. Reactions of Goldeneye to boating. *Brit. Birds* 69 178-179.  
 PARR, D. 1974. The effect on waterfowl of sailing at Barn Island Reservoir. *Surrey Bird Report* 1973 pp. 74-78.  
 SUMMERS-SMITH, D. 1977. The effects of sailing on wintering wildfowl at Scaling Dam Reservoir. *Unpublished Report*.

## BIRDS

### Report of the Recorder

#### REVIEW OF 1986

The year commenced with Scaup and Velvet Scoter remaining from 1985 at the Stewartby/Brogborough complex, both being joined by others, in what for the latter sea duck proved to be an unprecedented year with seven birds recorded. Stewartby Lake attracted the first Red-throated Diver since 1978, two Red-necked Grebes, a sprinkling of sawbills, Pintails, Ruddy Ducks and good numbers of the commoner wildfowl, with nearby Brogborough harbouring large numbers of diving duck and Coot. The status of small parties of Barnacle Geese continued to confound the consciences of the county's 'listers', but four in January certainly acted wild! Parties of Bewick's Swans and Cormorants were scattered around the Bedford Basin, prior to the cold spell, while a group of White-fronts frequented the Ouse Valley, along with a Brent Goose. Not to be up-staged the Ivel Valley played host to a rare Ferruginous Duck for a week, a Great Grey Shrike for most of the winter and five Twite by the month's end.

Yet again gull flocks proved rewarding with up to four Glaucous Gulls found and, at Luton Hoo in February, only the third county record of Mediterranean Gull. A protracted freeze-up occurred during this month and passerines such as Blackcap, Brambling, Siskin, Meadow Pipit and Reed Bunting found safe shelter and food in many an urban garden.

Raptors present in March included a Red Kite and Rough-legged Buzzard over Sandy, a Merlin that had been eluding many observers around the Stewartby area since January and at least two Short-eared Owls. A Wheatear on Blows Downs on the 15th heralded the first eagerly awaited flurry of southern migrants along with Sand Martins at Rookery Pit the same day, and at Houghton Regis CHP the earliest ever Redstarts on the 22nd coincided with others in southern England at that time.

After a lull in late March there then followed an exciting April and May at Priory Park, Stewartby Lake and particularly Blows Downs. As part of a continuing study programme, aided by extensive coverage, the Blows Downs Migration Watchpoint proved the importance of the Chiltern Escarpment to passage birds by recording some impressive statistics: Ring Ouzels occurred on 17 days, with 10 of Redstarts and seven of Black Redstarts and Wheatears on an amazing 40 dates. Whinchat, Stonechat and Tree Pipit were all noted along with good numbers of warblers, wagtails, Cuckoos and Spotted Flycatchers. Rarities passed through with Firecrest and Pied Flycatcher now becoming almost annual. Much rarer, but half expected, were six Dotterel on 30th April and finally crowning a superb spring at Blows Downs three Little Terns into May. Meanwhile at the clay pits, the Stewartby complex attracted two Avocets and the now regular Common Scoter passage, plus another Velvet, Black-necked Grebe, 'Commic', Black and Little Terns. Priory Park was notable for Little Gull and only Bedfordshire's second record of Little Egret. An Osprey was at Stanford Pit and two Water Pipits at Totternhoe, while a male Subalpine Warbler claimed on Bison Hill on 7th May, coincided with others around Britain at that time, and if accepted will be an addition to the county list. The wet spring and summer did not help the breeding birds but eventually summer migrants like Nightingale, Tree Pipit and Grasshopper Warbler could be found in the Lower Greensand woodlands. Hobbies were widespread with at least nine pairs present and a pair of Buzzards probably bred. Ruddy Duck consolidated their breeding status along with Shelduck and Shoveler.

An influx of Quails was noted in July with a bevy of four singing males at one downland site alone. A pair of Long-eared Owls bred successfully but the Barn Owl continues to be scarce, as does the Nightjar. Small numbers of breeding waders could be found along the river valleys and pits with several notable colonies of Sand Martin; although this species is still well down on former years.

Common Bird Census data from two woodland plots showed that the Wren had suffered badly from the prolonged cold February but that most other resident passerines seemed to be holding their own except for the Tree Sparrow; there was a complete absence for the first time since recording began.

A return wader passage was evident at Radwell GP and Chimney Corner CLP where conditions proved attractive to Little Stints, Ruff, Greenshanks and Wood Sandpiper, plus the year's only Garganey. A Bittern was heard at Luton Hoo in August and, at Whipsnade Zoo, Crossbills that had been present all year, peaked at eight.

Autumn passerines were less impressive but two Wrynecks and several Pied Flycatchers were of note. October was quiet, due mainly to an exodus of observers west, with only a Red-crested Pochard and a few late summer migrants of interest. An impressive movement of Redwings was recorded early in the month. In November there was an influx of Cormorants around the brick pits, several parties of Bewick's Swans and a Slavonian Grebe at Harrold CP. Cormorants remained into December, another Red-necked Grebe was at Stewartby Lake, plus two rare Whooper Swans at Radwell and a peak of 96 Gadwall were at Dunstable SW. A large Golden Plover flock at Cardington Airfield briefly held a Grey Plover with Hen Harrier noted there and at South Mills Pit.

By the end of 1986 a record total of 188 species were recorded in Bedfordshire, exceeding the previous best, in 1983, by three, and I would like to thank the rarities Committee of A. J. Livett, B. Nightingale, M. J. Palmer, Dr J. T. R. Sharrock and D. S. Woodhead for their advice and comments on rare birds. I am delighted to be able to enhance this year's report with the inclusion of several line drawings by Andy Chick and Peter Marshall and photographs by Andy Tomczynski; to them go my sincerest thanks for their generosity.

Finally my thanks go to the following contributors:

J. Adams, S. Aldridge, P. Almond, Mrs C. Aitken, D. Anderson, Mr Armour, V. Arnold, Mrs Asberry, D. H. Ball, R. Bashford, N. P. Bridgland, R. Brind, C. W. Burton, L. Bull, L. Carmen, A. and R. Catchpole, R. Chalkly, A. Chapman, A. Chapell, A. P. Chick, R. Cindery, I. K. Dawson, R. Dazley, G. Dennis, P. Dove, W. Drayton, J. E. Elliot, L. G. R. Evans, N. R. Finan, Mrs Francis, R. French, G. Frost, P. Fuller, A. Gill, D. Green, M. Green, M. Haile, L. S. Hazzard, P. N. Holden, Mr and Mrs P. Horn, B. M. Inns, J. Jarvis, L. R. Jarrett, I. J. Johnson, H. Jones, J. P. Knowles, D. Kramer, L. Lambert, D. Lampitt, M. Lewis, A. J. Livett, D. Manning, J. Marchant, P. Marshall, R. J. Mathews, T. Mayor, M. McCormick, B. Nightingale, R. Nye, D. J. Odell, P. Oldfield, I. Oxley, M. Paine, J. C. Palmer, M. J. Palmer, D. Parsons, D. A. and T. Peterkin, G. Pilkington, Mr Preston, D. Rands, P. J. Rhodes, G. Robinson, M. D. Russell, A. Scott, W. Siddons, K. and Dr J. T. R. Sharrock, Dr M. Simmonds, P. Smith, P. Soper, R. A. Spain, B. R. Squires, R. B. Stephenson, J. Swann, C. Tack, J. B. and J. J. Temple, D. Thomas, A. Tomczynski, P. Trodd, R. P. Young, K. R. Weedon, P. J. Wilkinson, M. Williams, R. Wing, R. and S. Wing, S. Winter, D. S. Woodhead.

## SYSTEMATIC LIST FOR 1986

Nomenclature follows the *'British Birds' list of the Western Palearctic* (1984).

The following abbreviations have been used in the text: BBRC — British Birds Rarities Committee; BTO — British Trust for Ornithology; CBC — Common Bird Census; CHP — chalk pit; CLP — clay pit; CP — country park; GP — gravel pit; SP — sand pit; SW — sewage works.

Place names follow those stated by B. Nightingale (*Bedf. Nat.* 39 73-74) except for Barkers Lane (TL 076 493) which is now more generally known as Priory Park.

### Non-passerines

**Red-throated Diver** *Gavia stellata* A single at Stewartby Lake on 11th January was found entangled in fishing net but was subsequently freed unharmed. This is the first record since 1979 (BN, DJO, MJP *et al.*).

**Little Grebe** *Tachybaptus ruficollis* Recorded during the breeding season with juveniles at Houghton Regis CHP, Luton Hoo, East Hyde, South Mills Pit and Steppingley Reservoir, where eight birds were noted on 8th September, and in the brick pits at Chimney Corner CLP, Vicarage Farm Pit, Millbrook Pit, Brogborough Lake and Rookery Pit. A count of 15



*Red-throated Diver at Stewartby on 11th January 1986*

*(Photo: Andy Tomczynski)*

at Luton Hoo on 15th October was of note.

**Great Crested Grebe** *Podiceps cristatus* Single breeding pairs occurred at the following locations: Battlesden Lake, Girtford Pit, Langford lakes, Luton Hoo, Houghton Regis CHP, Priory Park, Chimney Corner CLP, South Mills Pit, Stewartby Lake, Rookery Pit, Vicarage Farm Pit, and Woburn Lake. Oil pollution had killed five birds at Grovebury Farm pit by 4th May, where nine pairs had assembled in mid-April. At Stewartby Lake 110 were present on 12th February with 52 at Millbrook Pit on 5th January.

**Red-necked Grebe** *P. grisegena* An adult at Harrold CP remained from 1985 until at least 5th January. Probably the same bird was relocated at Stewartby Lake on 10th January where it was joined by a second on 8th February, both leaving the following day due to icing (DJO, MJP, RD *et al.*). One 30th November for two days at Stewartby Lake (AT *et al.*).

**Slavonian Grebe** *P. auritus* One at Harrold CP 17th November to 14th December (DSW, DHB, MJP *et al.*).

**Black-necked Grebe** *P. nigricollis* A single in breeding plumage was at Blunham Lake from 13th to 17th April (AC, PH, MJP) with another at Stewartby Lake on 19th (MJP). In August there were two at Blunham Lake on 12th (PH).

**Cormorant** *Phalacrocorax carbo* A good year for this species, being recorded in every month except July with a noticeable influx during late autumn. In the first winter period small numbers were at Stewartby and Brogborough Lakes and along the Ivel Valley around Blunham and at Wyboston GP when nine flew north on 3rd March, with probably the same nine at Priory Park on 5th. Singles were noted at Luton Hoo and Harrold CP in April with four over Blows Downs on 2nd and three over Sewell on 4th May. In the autumn two circling over Dunstable SW on 14th September were unusual followed by two at Grovebury Farm Pit n 15th. During November and December birds were widespread with a maximum of 10 at Stewartby Lake on 24th December.

- Bittern** *Botaurus stellaris* A single heard at Luton Hoo on 19th and 20th August had probably been present for 10 days (AJL).
- Little Egret** *Egretta garzetta* One at Priory Park on 15th May is awaiting ratification by the BBRC and, if accepted, will be only the second county record (PEK, PJ, GD, RB).
- Grey Heron** *Ardea cinerea* The only occupied heronry was at Luton Hoo, where four nests were counted, three being used, but none positively successful. Post breeding groups were noted at Grovebury Farm Pit with 10 on 27th July and 22 at Priory Park on 15th August. There were no records from Bromham Park and Southill Lake.
- Mute Swan** *Cygnus olor* Breeding was reported from the following locations: Battlesden Lake one pair raised five cygnets, Dunstable SW pair nested but eggs predated, Brogborough Lake one pair with four young, Stewartby Lake a pair with two young, Priory Park a pair bred but young died, Rookery Pit a pair raised four cygnets. The largest winter counts were 42 on the River Ouse at Bedford on 19th January and 31 at Radwell GP on 4th January with a post breeding flock of 29 at Stewartby Lake on 24th August.
- Bewick's Swan** *C. columbianus* A single at Harrold CP on 5th January, with probably the same bird on 11th at Felmersham NR (PF, MJP, DSW). A party of 11 were at Rookery Pit on 24th January with one there on 23rd March (DHB, MJP, AT). In the autumn eight were at Brogborough Lake on 2nd November with one at Radwell on 7th December (MJP, BN, DJO). A skein of 10 flew over Brogborough on 14th December with a single on the Lake the same day and an adult at Radwell GP on 17th (PT, TP, DHB).
- Whooper Swan** *C. cygnus* Two adults at Radwell GP on 24th and 25th December were the only records of the year (DHB). See also p.47.
- White-fronted Goose** *A. albifrons* On 1st January six immatures and two adults were at Radwell GP where they were joined by another immature on the 2nd; the whole group staying until 11th (MJP). A bird of dubious origin was at Harrold CP on 29th April.
- Greylag Goose** *A. anser* Breeding was confined to Harrold CP with 50 goslings on 31st May and at Blunham Lake with 40 on 22nd. The largest winter counts of this feral population were at the aforementioned sites with a peak of c200 at Harrold in November and December and c220 at Blunham Lake on 31st.
- Canada Goose** *Branta canadensis* The main breeding sites were at Harrold CP where 60 young were noted on 31st May, and Luton Hoo where at least 45 goslings were raised. Elsewhere two nests were found at Wrest Park, a pair bred at Elstow CLP, a pair with eight young were successful at Brogborough Lake, at Priory Park a pair were seen with four juveniles and at Woburn Park c100 adults were noted in June. Large post breeding assemblies built up during August to December with over 400 at Radwell GP, 450 at Brogborough Lake, 415 at Luton Hoo (largest count ever there), 340 at Stewartby lake, 150 at Harrold CP and Grovebury Farm Pit with 110 at Chimney Corner CLP. An albino bird was of interest at Stewartby Lake in January.
- Barnacle Goose** *B. leucopsis* As always with this species confusion reigns as to its true status, due to the likelihood of escapes and feral bred birds mixing with true vagrants (see *Bedf. Nat.* 40 24). The Stewartby/Brogborough complex held a maximum of five birds in January and February where they were last recorded on 29th March. A single had been present from 1985, but a party of four that arrived on 2nd January were considered to have been wild. Others in the first winter period were two on 10th March at Luton Hoo, with four from 12th to 17th and a single staying through the year with the Canada Goose flock, being joined by another in September. In early January three were in the Radwell GP/Harrold CP area, with one at East Hyde on 13th March and another at Woburn Lake on 7th. A single frequented the brick pits during the summer with four at Millbrook Pit on 7th August, two at Chimney corner CLP on 20th, and three at Radwell from 3rd September until 28th December. Seven were at Brogborough Lake on 7th September with a peak of nine there on 3rd November and four at the year's end.
- Brent Goose** *B. bernicla* An immature bird of the dark-bellied race from 1985 was in the Harrold/Radwell area until 9th March (DHB, MJP, DSW). One briefly at Blunham Lake on 4th January (JTRS).





*Little Egret. Priory Park, May 1986*

(Peter Marshall)

- Egyptian Goose *Alopochen aegyptiacus*** Two were present in the vicinity of Radwell GP and Felmersham NR from 14th April to 18th May with one staying for the rest of the year (MJP, DSW). Another was noted at Stewartby Lake on 21st December and at Brogborough Lake on 23rd (TP, AT).
- Shelduck *Tadorna tadorna*** Pairs were recorded in the breeding season at four locations across the county; one holding two pairs. Confirmed breeding was only noted at one site with two juveniles in August. This species was noted in every month of the year, with a definite influx in spring, with a high of eight at Radwell GP on 26th April. Other notable groups were five at Dunstable SW on 21st February and at Stewartby Lake on 17th April. There were many other records of one or two birds from Priory Park, Grovebury Farm Pit, Blunham Lake, South Mills, Luton Hoo, East Hyde, Stanbridgeford, Girtford Pit and around the Bedford Clay Pits.
- Mandarin *Aix galericulata*** Breeding was noted at the following parkland locations: Woburn Park two or three pairs raised at least 13 young, Luton Hoo one pair present and at Wrest Park a pair was suspected to have bred. Elsewhere a pair with three juveniles were seen at East Hyde on 1st June with two by 17th and a pair was noted at Eversholt Lake. Winter records mainly from Woburn and Priory Park where two drakes were present most of the year, with six birds on 27th December.
- Wigeon *Anas penelope*** The main wintering flock was in the harrold CP/Radwell GP area with a peak of 250 on 11th January. Priory Park held good numbers in January where a mid-month peak was also noted, with 130 on 18th. Other notable highs were 82 at Brogborough Lake on 9th, 22 at Stewartby Lake the same day and 11 at Millbrook Pit on 12th February. Lower counts were made at Luton Hoo, East Hyde, Woburn Park and Grovebury Farm Pit where there were six on 16th March. A late bird was noted at Harrold CP on 17th May and a drake at Vicarage Farm Pit on 28th June was unusual. Autumn passage was first noted at

Dunstable SW on 21st September when three birds were present and at Grovebury Farm Pit with six the same day. Elsewhere numbers slowly built up at Harrold GP 75 on 23rd November, Blunham Lake 45 on 31st December, Priory Park 30 on 29th and smaller numbers at Luton Hoo, Brogborough Lake and Stewartby Lake.

**Gadwall** *A. strepera* Reported from 14 sites across the county but mainly from Dunstable SW, Blunham Lake and Luton Hoo. The former location had birds from January to 29th March with a peak of 37 on 4th January, and from 4th September to the end of the year, with 96 on 16th November. At Blunham Lake a maximum of 36 were present in January and in the second winter period 32 in December. Birds were noted at Luton Hoo all year, except July and August, with a pair in May, and a high of 56 in October. The only other double figure record came from Priory Park; 14 on 8th February. Although no confirmed sightings of ducklings were made, birds were noted in the breeding season at Lidlington CLP and Brogborough Lake, as well as Luton Hoo. This species seems to be on the increase as a winter visitor, about 200 in the county during November and December, and consequently a likelihood of further breeding in the future.

**Teal** *A. crecca* A pair present throughout the summer at South Mills Pit and a drake noted at Luton Hoo into May, constituted the only possible breeding records. As a winter visitor, most numerous during January with peaks of 131 at Priory park on 12th, 22 Luton Hoo, 20 Blunham Lake, 16 Chimney Corner CLP, 14 Radwell GP and 11 at Dunstable SW. In the second winter period numbers were generally lower, although a count of 70 at Blunham Lake on 30th December was of note, with 27 at Luton Hoo on 16th November and 25 at Priory Park on 29th December. Elsewhere only single figures were seen and in total, records were received from 15 sites.

**Mallard** *A. platyrhynchos* An impressive influx in January with 556 at Harrold CP on 19th, 200 Southill Lake on 17th, 174 Priory Park on 14th, and 138 at Luton Hoo on 12th. Numbers then decreased rapidly with the February freeze-up. Another peak was noted in September as post-breeding flocks assembled with migrants; Priory Park 235 on 27th, 124 Dunstable SW on 21st and 100 Luton Hoo on 14th. As a breeding species still widespread.

**Pintail** *A. acuta* Another good year for this species commencing in January with two ducks at Brogborough CLP on 1st, a drake at Dunstable SW from 11th to 29th March, where it was joined by another until 10th April, and three at Priory Park on 5th January, with five there on 21st April. In February there was a pair at Stewartby Lake on 12th with a female until 16th. In the autumn an immature drake was at Dunstable SW from 21st September until 4th October, two birds were at Priory Park on 15th September with another on 2nd November and a flock of 19 overhead in mid-December, with finally one at Harrold CP on 31st.

**Garganey** *A. querquedula* A single passage bird at Radwell GP on 19th August.

**Shoveler** *A. clypeata* Eight ducklings at Chimney Corner CLP on 24th July confirmed breeding there and one pair summered at Dunstable SW and Houghton Regis CHP. During May pairs were noted at South Mills Pit and at Luton Hoo until 7th June, with a drake at Southill Lake on 5th May. First winter counts were low with numbers typically increasing in late autumn with a maximum of 52 at Dunstable SW on 10th November and single figure counts from 11 other locations.

**Red-crested Pochard** *Netta rufina* A drake from 1985 stayed at Brogborough Lake until 27th March where it was joined by a duck on 9th until 21st (DJO, MJP). In the autumn a drake appeared again at the former site from 6th October to 16th with an immature drake at Battlesden Lake from 24th December into 1987 (AT, BRS, PS).

**Pochard** *Aythya ferina* The only suggestion of breeding was of a pair at Luton Hoo on 18th May and a drake at Vicarage Farm CLP in July. Numbers peaked in the first winter period at Brogborough Lake with 347 on 11th January, Stewartby Lake 95 on 12th February Chimney Corner CLP 50 on 9th and Luton Hoo 47 on 24th January. An autumn build up was widespread with reports from 14 sites, the highest again at Brogborough Lake with 200 in September, Priory Park 189 on 6th December, Blunham Lake in October and Dunstable SW in December.

**Ferruginous Duck** *A. nyroca* A duck at Blunham Lake on 12th and 19th January was only the eighth county record since 1946 (DHB, MJP *et al*).

**Tufted Duck** *A. fuligula* Breeding was reported from Battlesden Lake two pairs, South Mills Pit three pairs, Dunstable SW two pairs, and single pairs at Luton Hoo, East Hyde, Elstow CLP, Brogborough Lake, Priory Park, Rookery Pit, Stewartby Lake, and on the river Ouse at Bedford. The main wintering flock of 120 was at Brogborough Lake with 141 at Harrold in January.

**Scaup** *A. marila* A duck at Brogborough Lake remained from 1985 until 4th January and was probably the same bird at Lidlington CLP from 6th to 9th (MJP, DJO, AT). Another female was at Harrold CP and Radwell GP from 2nd January until 26th (DSW), with a female at Chimney Corner CLP from 15th to 19th April (DHB, DJO, MJP). The only autumn record was of a drake at Brogborough Lake on 27th November (APC).

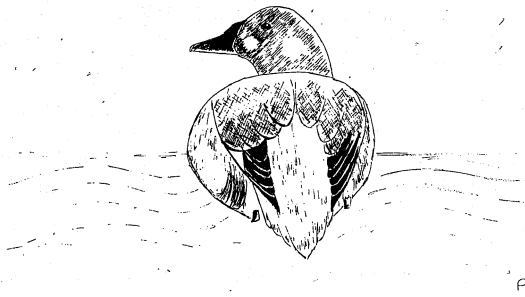
**Common Scoter** *Melanitta nigra* A typical spring passage of birds at Stewartby Lake commenced with a pair on 14th April, followed by a single until 19th and another pair on 20th and 27th. Two drakes and a duck were present on 20th May. Elsewhere a female at Brogborough Lake from 14th to 17th April was presumably from the Stewartby pair and a pair was at Blunham Lake from 16th to 17th April. The sole autumn record was of an immature at Brogborough Lake on 2nd October.

**Velvet Scoter** *M. fusca* An immature drake from 1985 staying at Lidlington CLP until 13th January was followed by two drakes at Brogborough Lake on 30th (AT) and a single at Stewartby Lake on 14th April (DJO). Finally three drakes at Stewartby Lake on 26th December (TP, DAP, MP) ended an unprecedented year for this sea duck, considering the Lidlington bird was only the third ever county record.

**Goldeneye** *Bucephala clangula* Widely reported from 12 of the county's pits and lakes, particularly from Brogborough Lake where there was a maximum of 24 on 2nd February with 20 at Stewartby Lake the same day. Harrold CP and Blunham Lake were the only other sites recording double figures with 11 and 12 respectively in January and the last spring birds were four at Priory Park on 27th April. In autumn one at Brogborough Lake on 2nd November was first to return with small numbers there and elsewhere into December. A feral population of five was at Blunham Lake all year.

**Smew** *Mergus albellus* A 'redhead' at Millbrook Pit from 11th to 17th January was probably the same bird that was seen briefly at Priory Park on the latter date (DJO, MJP, GD). In December a female/immature was at Brogborough Lake on 24th (MJP, AT) and at Harrold CP on 25th and 26th (DSW).

**Red-breasted Merganser** *M. serrator* One was at Stewartby Lake on 23rd February (DHB, PA) with three at Brogborough Lake, all 'redheads' on 15th April (AT).



Velvet Scoter. Lidlington, January 1986

(Peter Marshall)

- Goosander** *M. merganser* Two at Radwell GP on 3rd January were followed by one at Grovebury Farm Pit on 4th, seven at Priory Park on 25th and five flying over Harrold CP on 26th. In February three were at Radwell GP on 7th, one at Luton Hoo the same day, three at Priory Park on 9th, and four at Stewartby Lake on 11th. A distinct passage commenced in March with a pair at Dunstable SW on 2nd, a single at Grovebury Farm Pit on 9th, and another at Luton Hoo and Dunstable SW on 12th, one at Battlesden Lake on 15th, and singles at Radwell GP and Woburn Lake the following day. An interesting series of records was received from Grovebury Farm Pit with a group of eight on 16th March that were persistently harassed by Black-headed Gulls with six on 23rd, four on 6th April and, lastly, three on 13th. A 'redhead' at Blunham on 19th was the final passage bird. In the autumn a single returned to Priory Park on 18th November staying until 28th December with two on 22nd.
- Ruddy Duck** *Oxyura jamaicensis* Breeding again occurred at a site in the west of the county when an adult female was seen with four downy young on 20th September. Elsewhere three drakes summered at a suitable breeding location, but neither a duck nor juveniles were noted. In the winter a pair were at Blunham Lake from 1st to 4th January, with a duck at Dunstable SW on 13th February, two drakes at Stewartby Lake on 23rd with four birds on 4th March and singles at Harrold CP and Brogborough Lake on 16th and 12th respectively. At Priory Park individuals were noted on 13th August and 2nd November.
- Red Kite** *Milvus milvus* An unconfirmed report of a single at The Lodge, Sandy on 15th March coincided with others in Eastern England around that time (per GP).
- Harrier sp** *Circus sp* A single at Stewartby Lake on 21st May was probably an immature male Marsh Harrier (BRS).
- Hen Harrier** *C. cyaneus* A ringtail was noted on the county boundary with Herts., near Tingley Wood on 15th February (CWB). In December another was seen at Cardington Airfield on 6th (DHB) with possibly the same bird at South Mills Pit on 20th (BN, JTRS, KS).
- Goshawk** *Accipiter gentilis* A single sighting at The Lodge, Sandy in mid-November was only the fifth county record (per GP).
- Sparrowhawk** *A. nisus* Widely reported from 37 locations and in the breeding season from at least 20, mainly along the Greensand Ridge and the Chalk Downs. Many observers remarked on this bird's increasing abundance with comments like: Whipsnade Zoo "recorded through the year"; Luton Hoo "estimated three or four pairs on the estate"; Everton "a pair displaying and seen all year". Interestingly, even away from well-watched sites, increasing numbers were noted in urban areas around Luton and Bedford Town centres. During the ten year study period (1967-77) for the *Bedfordshire Bird Atlas* (B. Harding, 1979) breeding was only confirmed at three sites and pairs were present in 11 10km squares. Nine years later, although only three nests were found with young, pairs were noted in 17 10km squares, highlighting the welcome resurgence in numbers of this raptor.
- Buzzard** *Buteo buteo* A good year for this species commencing with one at Old Warden on 7th January (AT), a dark phase bird near Battlesden on 14th (PT), one at The Lodge, Sandy the same day (GP), another at Bushmead Priory on 11th March (JO) and singles at Tingrith on 25th May (WA) and Whipsnade Zoo on 7th June (IJJ). Breeding probably took place at one other site with an immature and two adults present by 31st August (PS). In September two were noted at Luton Hoo with a dark phase bird staying until late December (AJL, BRS), while two pale birds were seen at Warden Great Wood on 30th September (DHB) with probably one of the same pair over Luton on 10th December (PT). One at Whipsnade Zoo on 16th September, being mobbed by Rooks, was found the following day roosting in a Hawthorn bush on Bison Hill (CT, RC).
- Rough-legged Buzzard** *B. lagopus* A single over Sandy Warren on 2nd March was only the seventh county record since 1946 (AW).
- Osprey** *Pandion haliaetus* A report was received of one at Standford Pit on 18th April that was seen to catch a large Carp, before flying off towards Arlesey. Interestingly the majority of past records of this species have come from the Ivel Valley, suggesting a spring passage along this north-south watercourse (TM).

**Kestrel** *Falco tinnunculus* Commonly seen throughout the county, particularly hovering over roadside verges, but also in Bedford and Luton town centres where breeding occurred.

**Merlin** *F. columbarius* A male was seen in the Millbrook/Stewartby Lake area on five dates from 5th January to at least 8th February (DJO, AT, PA) with possibly another at Stagsden on 3rd March. In April a male was seen at close quarters on 28th, on rough ground behind Ampthill scrap metal yard (PS) and on 7th December a female/immature was briefly seen at Cardington Airfield (MJP, AT).

**Hobby** *F. subbuteo* The first migrant at Priory Park on 29th April heralded a good year for Hobbys in Bedfordshire, culminating in nine summering pairs; four confirmed as follows:

Site A — One pair, reared three juveniles with one staying until 20th September.

Site B — One pair, with an adult seen carrying prey towards the nestsite.

Site C — One pair, with two fledglings perched by the nest on 19th August.

Site D — One pair, with a juvenile on 23rd August.

There were three other sites where single pairs probably bred and two where they possibly did. The best chance of seeing Hobbys hunting was at Priory Park with sightings throughout the summer and the final migrant was seen over Warden Hills on 21st September.

(This species is Bedfordshire's only regular breeding bird that is considered by the Rare Breeding Birds Panel, therefore site locations have to be suppressed in order to protect the species from the likes of Oologists. All breeding records are treated in the strictest confidence and will continue to be so in the foreseeable future.)

**Red-legged Partridge** *Alectoris rufa* A widespread species with the largest covey reported at Dunstable on 16th October comprising 18 birds. With the increase in Chukar (*A. chukar*) releases, hybrids are likely to be encountered more frequently in the future.

**Grey Partridge** *Perdix perdix* Mainly recorded from the downlands and mid-Bedfordshire, from Cardington east to the Ivel Valley. The largest covey was at Barton Hill Farm, where there were 20 on 13th February and 19 near Priory Park on 11th October. One observer reported this species from eight localities, compared to 30 for Red-legged Partridge, which is a fair reflection of the comparable status of these two partridges across the county.

**Quail** *Coturnix coturnix* After a blank summer last year, 1986 produced a good crop of records,



Avocets at Stewartby on 19th April 1986

(Photo: Andy Tomczynski)

mainly in the south of the county. One, possibly two, calling from a barley field near Whipsnade Zoo stayed from 19th June to 25th July (CT, RC) with another at nearby Stanbridgeford in a hay meadow from 9th to at least 30th July (AT, MFP *et al.*). At Galley Hill, a favoured location in past years, a male calling on 13th July attracted at least another three singing birds by the month's end with the last record on 5th August (JCP *et al.*). A single was also heard at Broom on 24th July (AT).

**Pheasant** *Phasianus colchicus* An abundant resident, especially along the Greensand Ridge and around the country estates.

**Lady Amherst's Pheasant** *Chrysolophus amherstiae* The majority of sightings came from the Breakheart Hill complex at Millbrook with a maximum of ten seen during February. Maulden Woods held at least five calling birds in May and seven males and a female were noted at Steppingley Wood on 20th January. Four were present at Kingshoe Wood in February but only two records were received from the declining Charle Wood population, where the habitat is no longer suitable; although adjacent Lowes Wood is, and two or three pairs were noted there this year. Luton Hoo, where birds were seen in every month, held a population as high as 50 according to the gamekeepers.

**Water Rail** *Rallus aquaticus* At the main site, Flitwick Moor, noted throughout the year with four on 4th January and at least two pairs breeding. The only other breeding location was Harrold CP where five small chicks were seen with an adult on 24th May. Elsewhere singles wintered at Luton Hoo, Stewartby Lake, Kempston, Wrest Park, Houghton Regis CHP, Chalton SW, Dunstable SW and Castle Mill, River Ouse. Priory Park had a maximum of three on 18th March and a possible passage bird was noted at City Field Farm Pit on 19th September.

**Moorhen** *Gallinula chloropus* A maximum of 205 were recorded in Luton Hoo during November. Forty at Swiss Gardens, Bedford in January were also of note.

**Coot** *Fulica atra* A peak count of 1,820 at Brogborough Lake on 11th January was impressive with 365 at Chimney Corner CLP on 9th February. Blunham Lake held 204 on 31st December and even the small series of lagoons at Dunstable SW attracted 153 by 20th.

**Oystercatcher** *Haematopus ostralegus* Two at Chimney Corner CLP on 18th May and one at Grovebury Farm Pit on 1st June.

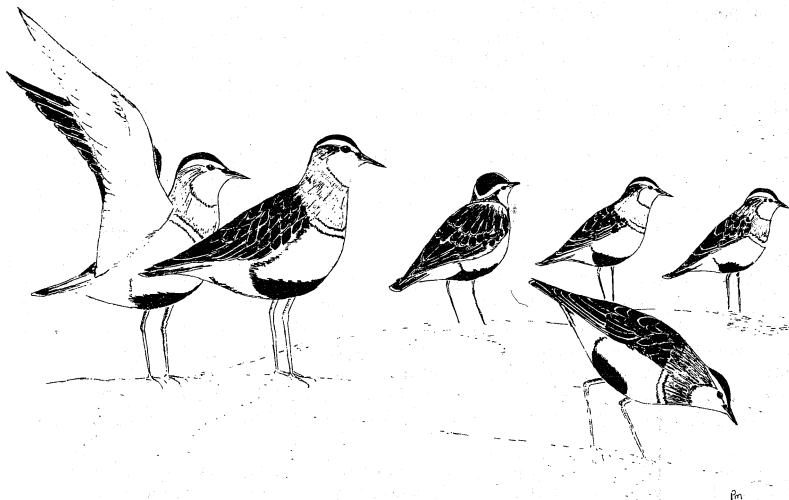
**Avocet** *Recurvirostra avosetta* A pair on the sailing club lawn at Stewartby Lake on 15th April were relocated on a flooded field north-east of Marston Moretaine later in the day. They reappeared at the same location on 18th staying until 22nd (DJO, MJP *et al.*).

**Little Ringed Plover** *Charadrius dubius* Summering pairs were recorded from six localities across the county with four young at one site and two at another being the only confirmation of successful breeding. As a passage migrant the first was at South Mills Pit on 14th March followed by one at Priory Park on 27th and throughout the spring there, and at Stewartby Lake. An autumn movement was noted at Radwell GP, ten on 20th August and six at Bedford SW on 10th with the final sighting on 30th September at Girtford Pit.

**Ringed Plover** *C. hiaticula* Apart from one winter record from Radwell GP on 19th January a strong passage was reported from 8th March at Priory Park with five on 14th, at Stewartby Lake from 23rd, where there were eight by 7th April. At least nine pairs were recorded from four sites with juveniles noted at two.

**Dotterel** *C. morinellus* On the afternoon of 30th April a 'trip' of six delighted three lucky observers on Blows Downs before departing northwards, constituting only the fourth occurrence this century (R and SW, AC).

**Golden Plover** *Pluvialis apricaria* In the first winter period a large flock frequented the Radwell GP area peaking at over 1000 by 16th March. Cardington Airfield held 280 on 26th January, 78 and 50 flew over Priory Park the same month, 20 at Pegsdon Hills and singles at Wrest Park and Whipsnade Zoo. In April 120 were at Shillington on 6th, 200 at Biggleswade on 24th and smaller double figure parties at Totternhoe, Stewartby Lake and Kempston Hardwick with the last at Radwell on 15th. The first to return was one at Grovebury Farm Pit on 23rd November and in December maxima of 450 at Radwell GP, 500 at Cardington Airfield, and 300 near Broom on 20th.



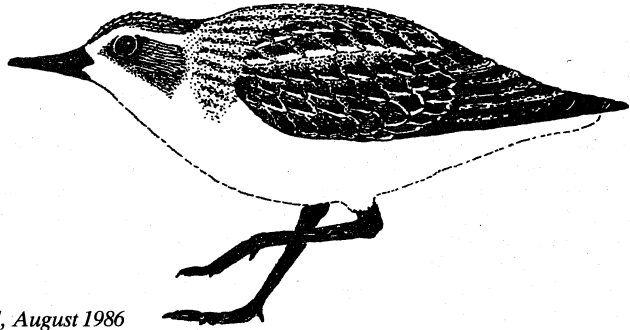
*Dotterels. Blows Downs, 30th April 1986*

(Peter Marshall)

- Grey Plover** *P. squatarola* A good year with three at Chimney Corner CLP on 18th May (DJO, MJP), singles at Priory Park on 22nd and 27th (DK, JS, DHB) and a summer plumage adult at Chimney Corner CLP on 19th August (DJO, LGRE). Finally one at Cardington Airfield on 7th December was located amongst the Golden Plovers (DJO, MJP *et al*).
- Lapwing** *Vanellus vanellus* The cold February drove most birds west in the first winter period with the only notable counts prior to the freeze-up at Rookery Pit, 1000 on 26th January and 600 at Chimney Corner CLP on 9th February. Breeding was recorded mainly from the county's quarries and by mid-June a passage westwards had commenced. In November 500 were at Luton Airport on 12th, 1500 near Broom on 20th December, over 1000 at Radwell on 28th and 500 at Thorn all month.
- Sanderling** *Calidris alba* One record at Chimney Corner CLP, on 31st July (DHB).
- Little Stint** *C. minuta* Singles, all juveniles, Radwell GP 12th to 13th August (DHB, LGRE, MJP) and on 20th (MJP, DJO) Chimney Corner CLP on 13th (MJP *et al*) and 19th to 20th (LGRE *et al*), Bedford SW on 20th (DJO, AT) and finally another at Radwell GP the same day (DJO, MJP).
- Dunlin** *C. alpina* One at Dunstable on 27th February was unusual followed by a light passage during the spring with singles at Priory Park on 18th March and 8th April, Radwell GP on 28th and two summer plumage birds on 3rd May with another at Harrold CP on 17th. Stewartby Lake had a maximum of three between 30th March and 9th May while a pair were at Houghton Regis CHP on 26th. Return passage was noted from 17th July at Chimney Corner CLP with three adults on 28th and one or two until 15th August. Two were at Radwell GP between 10th and 15th August with one on 1st September. Elsewhere singles were at South Mills Pit on 12th August and finally at Priory Park on 7th September.

- Ruff** *Philomachus pugnax* The only winter record was of one at Fenlake on 1st January, followed by two in the spring at Stewartby Lake on 12th April and a full adult male on South Mills Pit on 10th May. Autumn passage was noted at Radwell GP, with four juveniles on 10th to 12th August, three on 13th to 16th, four on 17th and lastly one on 20th. An average year for this species.
- Jack Snipe** *Lymnocyrtes minimus* At Houghton Regis CHP small numbers were regularly seen from January to 29th March with a maximum of five on 9th and one sighting at adjacent Dunstable SW on 19th February. South Mills Pit held a peak of six by 1st February with two staying until the end of March. By 2nd November the first bird had returned to Houghton Regis CHP, increasing to four by the end of December, when a single was noted at Stewartby lake on 26th.
- Snipe** *Gallinago gallinago* At Houghton Regis CHP small numbers were noted in every month with at least one, possibly two, pairs breeding. Elsewhere drumming was recorded at South Mills Pit, Vicarage Farm Pit and Rookery Pit. First winter period counts at Fenlake peaked at 208 on 8th February, 150 were at Radwell GP on 16th March and 31 at East Hyde on 17th January.
- Woodcock** *Scolopax rusticola* Roding was recorded at 11 sites, mainly along the Greensand Ridge. From January to March a scattering of records was received, all of single birds, from wetland sites and one, in the hard weather, in a garden at Luton. A small influx was apparent in the south of the county in November with records from Luton Hoo, Whipsnade Park, Houghton Regis CHP and Lewsey Farm, Luton.
- Black-tailed Godwit** *Limosa limosa* Two at Stewartby Lake on 30th March (MJP).
- Bar-tailed Godwit** *L. lapponica* A small flock passed over The Lodge, Sandy on 8th August (per GP).
- Whimbrel** *Numenius phaeopus* Two spring passage records in May with one over The Lodge, Sandy on 2nd and two over Flitwick on 18th. Returning migrants were noted over Sundon Park on 25th July and a party of four flying over the downs at Whipsnade Zoo on 7th August.
- Curlew** *N. arquata* Recorded from 11 localities, all on passage except for one at Old Warden on 16th January. The first in spring was at Dunstable SW on 19th March followed by singles at Chimney Corner CLP on 15th and 20th April, one over Carlton the same day and another at Houghton Regis CHP on 6th May. On the return passage one was at Woburn Park on 6th July, one over Whipsnade Zoo on 17th, three at Radwell GP on 12th August, seven over Sharnbrook early in the month, four at Chimney Corner CLP on 30th and finally a single over Priory Park on 7th September.
- Spotted Redshank** *Tringa erythropus* One over Priory Park on 6th September was the only record (DK).
- Redshank** *T. totanus* Widely reported in the spring with the first at Stewartby Lake on 23rd March and a peak of five there by 13th April. Small numbers were also noted at eight other locations with a maximum of 14 at South Mills Pit on 26th March. Breeding occurred at the latter site with at least six pairs, some seen with young. Elsewhere two pairs summered at Houghton Regis CHP where a nest with four eggs was found and pairs were at Radwell GP, Rookery Pit and Vicarage Farm Pit.
- Greenshank** *T. nebularia* Only two spring records were received, one, incredibly, over Blows Downs on 4th April and more typically a single at Chimney Corner CLP on 16th May. In the autumn one at Radwell GP on 26th July up to 11 by 12th August with the last two there on 3rd September and similarly at Chimney Corner CLP in August from 8th to 21st with a high of nine on 20th. Elsewhere one or two were at Steppingley Reservoir from 17th August to 18th September, three at Brogborough Lake on 14th, two at Rookery Pit on 20th and singles at Priory Park and South Mills Pit in August, with two on 15th. The only record from south of the county came from Houghton Regis CHP with two from 27th to 31st August.
- Green Sandpiper** *T. ochropus* No records were received for the first half of the year, and a single at Chalton SW on 16th and 17th June possibly related to a returning bird. Passage picked up in July with three at Chimney Corner CLP by the 31st and two at Vicarage Farm Pit on 8th August. At Radwell, the main site, small numbers were present from 8th to 13th September





*Little Stint. Radwell, August 1986*

(Andy Chick)

peaking at seven on 10th. A poor passage was recorded at Dunstable SW with just two birds on 21st September and one at Houghton Regis CHP in July. A single was at Stewartby Lake on 23rd October and the only winter record came from Biggleswade Common on 20th December.

- Wood Sandpiper** *T. glareola* A single adult at Radwell GP from 8th to 12th August (MJP) with another at Bedford SW 20th to 28th. A poor showing for what was formerly a fairly numerous passage wader.
- Common Sandpiper** *Actitis hypoleucos* The first spring bird was noted at South Mills Pit on 13th April with singles in April and May at Luton Hoo, Priory Park and Houghton Regis CHP where there were four on 10th May. In the autumn recorded at seven sites between 8th July and 18th October with the main passage in mid-August at Radwell GP 12 on 12th, Stewartby Lake five on 19th, Chimney Corner CLP three on 25th and Priory Park with five on 30th.
- Turnstone** *Arenaria interpres* A single adult at Chimney Corner CLP on 31st July was the sole record.
- Mediterranean Gull** *Larus melanocephalus* An adult in winter plumage, at Luton Hoo on 17th February, as only the third county record (BRS, LGRE).
- Little Gull** *L. minutus* In May the first was at Brogborough Lake on 2nd followed by two at Priory Park on 4th and another at Stewartby Lake on 8th. In the autumn at the latter site, four immatures on 11th August on 15th and two on 18th (DJO, LGRE, MJP, BRS, JS *et al.*).
- Black-headed Gull** *L. ridibundus* A pair bred at Rookery Pit for the first time in the county since 1976. An unusual sighting was of a flock of 50 feeding on elderberries; while most hovered and plucked the fruit off in flight, some actually managed to alight on the bush briefly to feed.
- Common Gull** *L. canus* Many thousands were present at Elstow and Brogborough Refuse Tips throughout the winter, moving to Stewartby and Brogborough Lakes to roost in the evenings.
- Lesser Black-backed Gull** *L. fuscus* A passage was noted in early August including several of the Scandinavian race *L.f. fuscus* at Stopsley, Luton. A count of 700 was recorded at Elstow CLP on 2nd September.
- Herring Gull** *L. argentatus* Over 1000 were at Brogborough Tip during January with large numbers elsewhere at Elstow and Sundon Tips.
- Glaucous Gull** *L. hyperboreus* A first winter at Houghton Regis CHP on 5th January was probably the same bird later in the day at Sundon Refuse Tip with a further sighting on 11th (AT, PT). One flew over Blunham on 12th January (JTRS) and a second summer bird was noted at Stewartby Lake on 15th April (AT, DHB). A third winter bird at Stewartby Lake on 10th January (DHB).
- Great Black-backed Gull** *L. marinus* Many birds on the Brick Pits in the winter months with counts of 70 at Brogborough No.2 Pit on 30th November and 220 at Stewartby Lake on 17th December.

- Kittiwake** *Rissa tridactyla* A single adult at Priory Park on 18th January followed by another on 11th March (DK) and one at Brogborough Lake on 16th (AJL).
- Sandwich Tern** *Sterna sandvicensis* One at Radwell GP on 13th August (AT).
- Common Tern** *S. hirundo* The first arrivals were three at Stewartby Lake on 15th April with a widespread passage into May noted at 13 other sites. Priory Park and Radwell GP recorded the highest spring counts with 11 and 20 respectively. August was the peak month for returning migrants with over 20 at Stewartby Lake on 2nd and the last three on 21st September. Breeding occurred at the following: Harrold CP 10 pairs reared at least 20 young, Radwell GP one pair probably failed, Girtford Pit one pair and Rookery Pit two pairs with young and four other pairs present.
- Arctic Tern** *S. paradisaea* Following last year's remarkable influx 1986 returned to an average year with a light mainly spring passage; a single at Stewartby Lake on 15th April, five on 27th and one on 3rd May. Priory Park had five on 26th April, three on 27th and two on 5th May, with two at Brogborough Lake the same day and at Radwell GP on 9th. The only autumn record was at Stewartby Lake with 14 on 27th August.
- Little Tern** *S. albifrons* Three flying over Blows Downs on 6th May were the most unlikely migrants ever seen there, highlighting the rewards of constant study at that site (RD). More expected were singles at Stewartby Lake on 7th (MJP) and 14th May (AT) with another at Priory Park on 23rd June (GD).
- Black Tern** *Chlidonias niger* A good double passage with the first one typically at Stewartby Lake on 30th April and four more on 20th May. Priory Park had two on 12th and 17th May while three were at Brogborough Lake on 4th. In the autumn, Stewartby Lake had the majority of sightings with small numbers from 8th to 31st August, peaking at 18 on 14th. Elsewhere one was at Rookery Pit on 20th July, another at Radwell GP on 20th August and finally at Luton Hoo, where terns are scarce, one on 14th September.
- Feral Pigeon** *Columba livia* Over 500 noted at Stopsley Common and the Galley Hill area in November.
- Stock Dove** *C. oenas* Numbers built up to an impressive 500 at Luton Hoo by 5th December, a record for that site, and the highest ever recorded in Bedfordshire.
- Wood Pigeon** *C. palumbus* A flock of over 1000 were in the Galley Hill area in January.
- Collared Dove** *Streptopelia decaocto* Two large November gatherings were of note, one at Warden Hills contained 173 on 15th, while on 17th a roost at Well Head, Totternhoe held 110, with four melanistic birds in the village on 12th February. The Well Head count was well down on previous years.
- Turtle Dove** *S. turtur* The first was one at Harrold CP on 26th April and the last at Girtford Pit on 20th September. The Old Warden CBC plot recorded four breeding pairs, the lowest ever since recording began in 1973 and at The Lodge, Sandy only three pairs continued the downward trend there.
- Ring-necked Parakeet** *Psittacula krameri* Two at Houghton Regis on 22nd December.
- Cuckoo** *Cuculus canorus* Whipsnade Zoo had the first on 17th April, followed by the main arrival at the end of the month. An immature at Blows Downs on 5th September was the last.
- Barn Owl** *Tyto alba* Breeding pairs were reported from at least two sites with sightings of singles at 11 other localities. Sadly three road casualties were noted at Biggleswade on 17th February, Brogborough on 4th May and Wyboston on 26th October.
- Little Owl** *Athene noctua* Reported from 25 localities right across the county, but particularly from the Greensand Ridge south to the downlands. The county seems to support a thriving population.
- Tawny Owl** *Strix aluco* Still the most abundant owl with the majority of reports of calling birds. In the winter, a pair roosting in Bramingham Wood proved confiding, along with another at nearby Leagrave Marsh.
- Long-eared Owl** *Asio otus* A pair bred successfully at one site raising two young and an adult was heard at another. First winter roosts at one locality held five birds in January with two elsewhere. By the autumn yet another roost site was found with two owls, along with an

unconfirmed report of eight individuals at a different site making a total of four localities where this species was known to roost. An adult found shot dead on Blows Downs on 22nd March was reported to the Police the following day.

- Short-eared Owl** *A. flammeus* At least two were in the Millbrook Vehicle Proving Ground area in the first winter period with the last sighting on 15th April at Millbrook Station. A winter roost of four was present from January to early April at a location in south Beds. Elsewhere a single over Blunham on 12th January, another at Houghton Regis CHP on 27th February and one at Kempston on 29th March. In December one near Stewartby on 6th and probably the same bird at nearby Coronation Pit on 28th.
- Nightjar** *Caprimulgus europaeus* A migrant noted on a BNHS field meeting at Flitwick Moor on 15th May was unusual. More normal was two churring males at Moneypot Hill by 13th June, with at least a pair summering, and similarly a pair at Wavendon Heath in June. An unconfirmed report was received of a churring bird at Whipsnade Heath, also in June.
- Swift** *Apus apus* The first arrival was at Priory Park on 27th April with a distinct passage of 400 noted there on 21st May and elsewhere in mid-May at Brogborough Lake 300, Harrold CP 200 and Luton Hoo 100. An estimated 100 pairs bred at Woburn and the final returning migrant passed over Priory Park on 20th September.
- Kingfisher** *Alcedo atthis* Recorded from 18 sites with suspected breeding at three, but no confirmation of success. However breeding must have been widespread as many observers noted, presumably immature, birds from August to October, a period of post breeding dispersal. The cold spell in February did not appear to have affected this species unduly.
- Wryneck** *Jynx torquilla* A single in a garden at Ravensden on 30th to 31st August (CA) with another garden bird at Sundon Park, Luton from 14th to 16th September (C An). Both records coincided with easterly winds and subsequent arrivals of this species along the east coast of England.
- Green Woodpecker** *Picus viridis* Reported from 16 localities mainly along the Greensand Ridge, with particularly high densities noted at Woburn Park and Stockgrove Park. In the winter singles often seen around the Bedfordshire Brick Pits.
- Great Spotted Woodpecker** *Dendrocopos major* The most abundant woodpecker, widely distributed, with many reports of singles at bird tables during the winter months.
- Lesser Spotted Woodpecker** *D. minor* Reported from 23 localities, mainly from the Greensand Woodlands, but also the Ouse and Ivel river valleys, where old willows afford ideal nest sites.
- Passerines**
- Skylark** *Alauda arvensis* Large numbers of migrants moved through the Galley/Warden Hills area during December, with c300 on 14th and as many as 1000 by the month's end. Elsewhere in February c750 and c200 were noted at Everton and Elstow CLP respectively. A breeding season count at Deacon Hill revealed at least 10 pairs nesting on the sheep pasture.
- Sand Martin** *Riparia riparia* Three at Rookery CLP on 15th March were the earliest arrivals, followed by one at Radwell GP on 22nd. The last returning migrants were six at Priory Park on 14th September. Away from wetland sites passage was noted on the downs at Blows on 1st May and Barton Hills on 13th August. As a breeding bird one observer reported "some encouraging signs" with the following colonies counted: Leighton Buzzard Golf Club 40 pairs, Grovebury Farm Pit 65 pairs, Aspley Health 15 pairs (c60 nest holes) and Shire Hall, Bedford three pairs. With many young successfully fledged and with an easing of the Sahel drought perhaps an increase in numbers is imminent for this once abundant summer migrant.
- Swallow** *Hirundo rustica* The first were two at Priory Park on 16th April with the main arrival over the following two weeks. No large gatherings were reported and the last sighting was one at Blunham Lake on the exceptionally late date of 30th November.
- House Martin** *Delichon urbica* Four at Brogborough Lake on 31st March were four weeks earlier than the main influx at the beginning of May, with 4-500 at Harrold CP on 17th. Breeding

was widespread and a colony of 42 nests was counted at Everton in August. The last was a late bird near Whipsnade Golf Course on 17th November.

**Tree Pipit** *Anthus trivialis* Blows downs recorded the first passage from 19th April and then almost daily into May, with the last on 24th September. Breeding was mainly noted along the Greensand Ridge with up to 10 pairs and the chalk downlands with four pairs. A poor breeding season was not helped by the appalling spring weather.

**Meadow Pipit** *A. pratensis* Noted throughout the year, but predominantly a double passage migrant, especially during April when up to 80 could be seen at Priory Park and Radwell GP with a maximum of 50 at Blows Downs. Breeding was confined mainly to the unimproved chalk slopes in the south of the county and the clay pits.

**Water Pipit** *A. spinoletta* Now regarded by the BOU as a separate species from the Rock Pipit *Anthus petrosus*. Two in spring plumage at Totternhoe on 30th April were the only records (LSH).

**Yellow Wagtail** *Motacilla flava* A single at Priory Park on 1st April was the first building up to a peak of 57 there by 3rd May. Elsewhere good numbers at Radwell GP, 50 on 23rd April and Stewartby Lake, 36 on 25th April with a post-breeding congregation of 40 there on 25th August. Pairs were present in the breeding season at Dunstable SW, East Hyde, Flitwick SW, Girtford, Harrold CP and Priory Park. The last migrants were three at South Mills Pit on 3rd October. Records were made of the race known as the **Blue-headed Wagtail** *M. flava flava*. One at Priory Park from 19th to 22nd April with another on 1st and 3rd May and two on 5th (DK, MJP). Elsewhere one at Radwell GP on 24th April and Stewartby Lake on 26th (DSW, RAS).

**Grey Wagtail** *M. cinerea* Widely reported during both winter periods from 17 sites. Breeding was noted at East Hyde with two pairs present and a nest at nearby Luton Hoo contained four juveniles on 18th May. Chalton SW held two successful pairs but the outcome of a pair at Heath and Reach was not known.

**Pied Wagtail** *M. alba* An unusual roost site was alongside the Luton Road, Dunstable, with up to 50 individuals huddled together in a small Horse-chestnut tree. The main passage was in April when up to 11 birds of the continental race *M. alba alba*, known as the **White Wagtail**, arrived with Priory Park claiming two on 23rd and 24th April, with at least one from 14th to 18th May. On 23rd April three were at Harrold CP and one was at Radwell GP the following day. Stewartby Lake held a single from 13th April to 19th, followed by another at South Mills Pit on 20th and two at Luton Hoo on 22nd.

**Wren** *Troglodytes troglodytes* The prolonged freeze-up during February appeared to have a drastic effect upon the breeding population on a CBC plot at The Lodge, Sandy, with a reduction from 60 pairs in 1985 to only 17 in 1986.

**Duncock** *Prunella modularis* At The Lodge, Sandy, 23 pairs were recorded breeding which was slightly up on 1985, but still below average.

**Robin** *Erithacus rubecula* The CBC plot at The Lodge, Sandy, noted 43 breeding pairs, three more than in 1985.

**Nightingale** *Luscinia megarhynchos* Twenty one males were recorded singing from the following locations: Everton (8), Wilstead Wood (5), Maulden Woods (3), Marston Thrift (2), Sandy Warren (2), and Old Warden (1). The first to arrive was one at the latter site on 3rd May, with an adult carrying food there on 14th June confirming breeding.

**Black Redstart** *Phoenicurus ochruros* The main passage was at Blows Downs with singles noted on seven days from 18th April to 2nd May. Elsewhere singles were recorded at Whipsnade Zoo on 16th and 26th April, Houghton Regis CHP on 14th, Putnoe on 20th, and two at Luton Airport on 4th. A singing male was seen in Luton on 12th May and two winter records came from Leighton Buzzard with one from 16th January to 20th February and another on 22nd November.

**Redstart** *P. phoenicurus* Two birds seen at Houghton Regis CHP on 23rd March were the earliest ever recorded and coincided with others in southern England around that date. Spring

passage on Blows Downs was impressive with birds on 10 dates between 18th April and 2nd May, with a maximum of three on 21st April. Elsewhere singles were at Bison Hill on 12th April, The Lodge, Sandy on 28th and Kempston on 2nd May. Breeding was noted at Wavendon Heath (1 pair) and Stockgrove Park, where a juvenile was seen being fed by an adult on 13th July. Autumn passage commenced on 3rd September with one in Luton followed by singles at Houghton Regis CHP on 10th, Bison Hill on 18th, Dunstable SW on 4th October and the last in Luton on 5th.

- Whinchat** *Saxicola rubetra* The main passage was at the Blows Downs Watchpoint with six spring dates from 29th April to 16th May, with a high of three on 7th, and in the autumn from 15th August to 24th September with six on 14th. Smaller numbers were also seen in spring at Pegsdon Hills, Whipsnade Zoo, Priory Park, Stewartby Lake and Dunstable SW with autumn birds at the latter three locations plus East Hyde, Tingrith, Grovebury Farm Pit, Woburn and Warden Hills. The last sighting was at Dunstable SW on 5th October.
- Stonechat** *S. torquata* A typical showing from three well-watched locations involving possibly five birds. Stewartby Lake recorded a female on 2nd February and 29th March with another at Houghton Regis CHP on 21st February, followed by one at Luton Hoo on 15th March. A male was noted at the Paddocks, Blows Downs on 9th March and again on 24th April. These records relate to migrants returning west to breed rather than genuine wintering birds.
- Wheatear** *Oenanthe oenanthe* Two birds on 15th March, one at Blows Downs, the other at Whipsnade Zoo, were the earliest ever recorded at both sites. A strong passage was noted at many locations across the county from the downlands to the Ouse Valley, between 28th March and 5th April with at least 20 individuals on Blows Downs on 3rd. The latter site had Wheatear on 40 dates until mid-May with a bird of the Greenland race *O.o. leucorrhoe* on 14th. Return passage started on 24th July with one at Chimney Corner CLP but mainly along the downs from Warden Hills to Bison Hill with the last, typically, at Blows Downs on 24th September. There were no breeding records.
- Ring Ouzel** *Turdus torquatus* The main passage was at Blows Downs, commencing with three on 1st April, with the last one noted on 3rd May. A more detailed study of the migration data from this site revealed a passage in early April, followed by a week gap, until another movement of birds from 13th through to early May. They were recorded on 17 days, three being the maximum seen together. Elsewhere, migration was apparent at Warden Hills with two on 5th and 18th April and singles on 6th and 12th, and another at Barton Hills on 27th. The Lodge, Sandy had a male from 3rd to 5th May. As usual, there were no autumn migrants.
- Blackbird** *T. merula* Numbers were up at the CBC plot at The Lodge, Sandy, by eight to 31 breeding pairs. An autumn passage was noted at Blows Downs during October involving up to 100 birds.
- Fieldfare** *T. pilaris* During the first winter period this species was particularly scarce as the frost ridden ground sent the majority of birds west. Several observers reported Fieldfares in gardens feeding avidly on apples in February. A light passage was noted during April across the county with a late date of one over Blows Downs on 5th May. An agitated bird was also noted at another location on the same date. The first to return were six at Battlesden Lake on 20th September with the main arrival on 2nd November when over 1000 were noted moving west over Priory Park and Everton, with 100 at Whipsnade Zoo. Passage continued through November but tailed off into December with the only large flocks of note being 200 at Harrold CP on 7th and 200 at Stewartby Lake on 19th.
- Song Thrush** *T. philomelos* Breeding figures continued to be low at The Lodge, Sandy, with only 12 pairs present.
- Redwing** *T. iliacus* As with Fieldfare, there was an almost total absence of this winter thrush during January and February, for similar reasons. However migration was recorded in March and April at Blows Downs, Whipsnade Zoo and Luton Hoo, with only small numbers being involved; the last was at Luton on 20th April. Autumnal migration commenced on the night of 4th October when many thousands passed SSW over Blows Downs, calling continuously

until dawn. This movement was also noted at Blunham. Wintering flocks were reported in November and December from Battlesden Lake, Whipsnade Zoo, Galley Hill, Luton Hoo, Stewartby Lake and Priory Park.

**Mistle Thrush** *T. viscivorus* An impressive number of 40 flew over Woburn on 23rd September with 24 at Everton on 10th August. Over 20 were present at Luton Hoo from August to December.

**Grasshopper Warbler** *Locustella naevia* The first was at Marston Thrift on 18th April followed by one at Home Wood on 20th, with a passage bird at Kempston the next day. The main arrival was the first week in May and by the month's end at least 18 males could be heard from eight locations. A single at Chicksands on 25th August was the last.

**Sedge Warbler** *Acrocephalus schoenobaenus* The first was at Priory Park on 17th April, which was about average, where, later into May, 26 singing males held territories. Elsewhere good numbers bred at Brogborough Lake (10 pairs), Twin Bridges Pit (5 pairs), Harrold CP (16 pairs). The final sighting was at Priory Park on 27th September.

**Reed Warbler** *A. scirpaceus* An early bird on 26th April at Harrold CP led to at least 30 pairs breeding by the end of May. Other colonies were as follows: Battlesden Lake (6 pairs), Houghton Regis CHP (10 pairs), Priory Park (6 pairs), Southill Lake (2 pairs) and Stewartby Lake (6 pairs), with the most unusual occurrence of two pairs found breeding in a Hawthorn hedge at Grovebury Farm Pit, 100 yards away from water. A passage migrant on Blows Downs on 26th May was the first ever there and the last were two at Priory Park on 11th October that were particularly late.

**Subalpine Warbler** *Sylvia cantillans* A male at Bison Hill on 7th May coincided with a small influx around Britain and is awaiting ratification by the BBRC (WD).

**Lesser Whitethroat** *S. curruca* The first to arrive was one at Warden Hills on 24th April with the main influx a week later at many localities. Autumn passage was apparent along the chalk downs in September, with the last sighting at Dunstable SW on 28th.

**Whitethroat** *S. communis* Warden Hills also had the first record on 24th April with the main arrival during the first week of May recorded across the county. Breeding numbers were still considered low and the last migrant was at Warden Hills on 21st September.

**Garden Warbler** *S. borin* First noted on 26th April at The Lodge, Sandy where nine pairs bred on the CBC plot. The last was on Blows Downs on 24th September.

**Blackcap** *S. atricapilla* Wintering birds were present at the following sites: Barton 19th January, Bedford 8th March, Dunstable 7th to 10th March, Luton 2nd January, Dunstable SW 26th December, and The Lodge, Sandy 6th to 13th December. The first migrant was probably at Old Warden on 19th April with the last at East Hyde on 8th October.

**Wood Warbler** *Phylloscopus sibilatrix* A single at The Lodge, Sandy on 20th April was early but did not stay, along with one on passage at Pegsdon Hills on 25th. Maulden Woods held a singing male from 9th May, with two on 11th, but subsequently only one until song ceased by mid-June; breeding was not proven but a female was seen on 19th May. One at Folly Wood, Flitwick Moor was noted on 14th May.

**Chiffchaff** *P. collybita* Many wintering birds were reported with two at Leighton Buzzard on 24th January, and at Turvey on 22nd February, with singles at Flitwick during February and Harrold CP on 5th March. The second winter period produced one at the latter site in December, another at Biggleswade Common on 20th, one in Bedford on 24th and a single at Blunham on 30th. Priory Park also held one for most of the month. The first migrant was difficult to assess but a notable influx occurred from 26th March with probably the last at Whipsnade Common on 21st October. Breeding numbers were still low on the CBC plot at The Lodge, Sandy, with six pairs recorded.

**Willow Warbler** *P. trochilus* The first arrival was at Twin Bridges Pit on 2nd April with the main influx from 17th when a fall occurred on Blows Downs. A breeding census at Priory Park recorded 12 pairs and at The Lodge, Sandy on the CBC plot 42 pairs were found, similar to last year. The last migrant was at East Hyde on 8th October.

**Goldcrest** *Regulus regulus* At the Blows Downs migration watchpoint a light passage was noted during April and October. Insufficient data were submitted to assess the breeding

population along the Greensand Ridge, although at The Lodge, Sandy eight pairs were present, which was about average.

- Firecrest** *R. ignicapillus* A well-watched female was at Blows Downs from 18th to 19th April (APC, PT *et al*) with another at The Lodge, Sandy on 4th May (GP).
- Spotted Flycatcher** *Muscicapa striata* The first bird arrived in a garden at Aspley Heath on 4th May where it subsequently stayed on to breed. Passage was noted on Blows Downs from 7th May and at Barton Hills on 13th when 10 birds were noted. Whipsnade Zoo hosted the last on 21st September.
- Pied Flycatcher** *Ficedula hypoleuca* A female was at Ampthill Park on 29th April (MJP, AT) with another on 2nd May at Blows Downs (LC, RD, PT). Early return passage birds were noted on 13th August with singles at Barton Hills (RAS).
- Long-tailed Tit** *Aegithalos caudatus* Roving winter flocks were particularly noticeable among the downland scrub in the south of the county where a count of 38 was made at Bison Hill during December. Breeding numbers at The Lodge, Sandy remained stable with three pairs on the CBC plot.
- Marsh Tit** *Parus palustris* Reported from 15 widely distributed locations; no doubt significantly under-recorded making an assessment of its breeding status difficult to judge.
- Willow Tit** *P. montanus* During the breeding season recorded at Bradger Hill, Flitwick Moor, Marston Thrift, Maulden Woods, East Hyde, Warren Wood and at Bison Hill where a fledgling was seen to fall prey to a Sparrowhawk. Outside the breeding period noted at eight other locations. This species together with Marsh Tit still continues to pose identification problems; many still going down as 'black-capped tits'.
- Coal Tit** *P. ater* The breeding population at The Lodge, Sandy remained about stable with 17 pairs on the CBC plot.
- Blue Tit** *P. caeruleus* A record 40 pairs took advantage of the many nest boxes available at The Lodge, Sandy with many more breeding in natural cavities.
- Great Tit** *P. major* Twenty four pairs bred at The Lodge, Sandy continuing the recent high trend that is undoubtedly aided by the supply of nest boxes.
- Nuthatch** *Sitta europaea* This species is still patchily distributed throughout the county's woodlands, birds showing a preference for well established timber, such as can be found at Woburn Park or Stockgrove Park, where up to 20 pairs were noted in the primary oak wood there in July.
- Treecreeper** *Certhia familiaris* There is no evidence to suggest that the status of this resident bird has changed, even after the prolonged cold spell during February.
- Great Grey Shrike** *Lanius excubitor* An individual haunted the Ivel Valley in the Blunham/Girtford area from 7th January to at least 31st March (MJP, AT *et al*) with presumably a different bird near Greenfield on 27th March (MP).



Firecrest. Blows Downs, April 1986

(Andy Chick)

- Jay** *Garrulus glandarius* An abundant breeding passerine, especially so along the Greensand Woods, with a count of 29 at The Lodge, Sandy being of particular note.
- Magpie** *Pica pica* Most numerous on the chalk downlands where at least 130 were counted coming into roost in scrub, at Dunstable Downs, following a day's foraging at an adjacent pig farm.
- Jackdaw** *Corvus monedula* A common breeder at parkland locations, such as Woburn Park, where mature oaks afford an abundance of nest holes. During the winter many flock together with other corvids to forage the Brick Pit Refuse Tips around Bedford.
- Rook** *C. frugilegus* Winter flocks comprising many hundreds were recorded at Elstow, Brogborough and Sundon Refuse Tips, where many rookeries have become established among nearby poplars, particularly in the Stewartby area.
- Carrion Crow** *C. corone* One frequenting the Eaton Bray area during the first winter period exhibited a distinctive white wing bar and was also seen feeding at the Dunstable Downs pig farm during December. As with the Rook many hundreds frequented the county's Refuse Tips.
- Starling** *Sturnus vulgaris* At least 10,000 birds swarmed into roost at Winsdon Hill, Luton during both winter periods, forming impressive sub-roosts atop nearby houses en-route. This gathering seems to favour different downland sites from year to year with Blows and Dunstable Downs having been used in the past.
- House Sparrow** *Passer domesticus* A leucistic individual was noted at Laportes playing field, Dunstable during April.
- Tree Sparrow** *P. montanus* The decline continues with breeding records from only two loctions, East Hyde and South Mills Pit. The main winter flocks were at Blunham, with a maximum of 80 during January, and Millbrook Pit with up to 20, and 30 were also recorded at Slip End and Green Lanes, Dunstable on 28th March and 24th December respectively, with lesser numbers reported from six other sites. Please submit all future records of this species.
- Chaffinch** *Fringilla coelebs* A healthy figure of 33 breeding pairs was recorded at The Lodge, Sandy increasing by nine from 1985's census.
- Brambling** *F. montifringilla* During the first winter period the highest count was at Priory Park with 49 on 12th February closely followed by a maximum of 40 at Millbrook Pit on 20th February with the last one on 18th April. Elsewhere noted at 14 widely scattered points around the county with never more than 10 birds at any one place. On Blows Downs Bramblings were recorded in small numbers on 15 days from 31st March until the exceptionally late date of 3rd May. In the autumn the first arrival was of one at Everton on 5th October followed by another at Whipsnade Zoo on 14th. Small numbers could be found at Blunham and Cardington during December.
- Greenfinch** *Carduelis chloris* A slight increase was registered at The Lodge, Sandy with nine pairs breeding on the CBC plot.
- Goldfinch** *C. carduelis* A post-breeding charm of up to 80 were noted at the Paddocks, Blows Downs during September.
- Siskin** *C. spinus* Widely reported during the first winter period from over 20 locations with the largest flocks as follows: Eversholt c200 on 22nd January, Flitwick Moor 160 on 1st, Luton Hoo c75 on 12th, Leagrave Marsh c50 all month, Southill Lake c40 on 17th, Bromham Spinney on 16th February, Wrest Park 20 on 20th January and Warren Wood with up to 20 during April. The last was at Whipsnade Zoo on 21st May and the first in the autumn at Clophill on 19th October. Many observers commented on this species' increasing adaptability at feeding on nut bags in gardens.
- Linnet** *C. cannabina* The only large flocks noted were of c120 at Chimney Corner CLP on 21st September and at Lewsey Park with c150 during November and December.
- Twite** *C. flavirostris* A party of five at South Mills Pit on 31st January, typically among a flock of c25 Linnets was the only record (PO).
- Redpoll** *C. flammea* A winter flock of up to 300 birds occurred at The Lodge, Sandy during the first winter period with one or two 'Mealies' *C. f. flammea* in the roosts. Three individuals of the 'frosty' northern race were also present in a flock of c300 at Priory Park on 18th January.



Lesser numbers could be found at similar locations to Siskin with once again reports of others at garden feeding stations. As a breeding bird it is, no doubt, under-recorded but evident mainly along the Lower Greensand Ridge in small numbers.

**Bullfinch** *Pyrrhula pyrrhula* A count of 19 was of note at Priory Park on 15th November. At The Lodge, Sandy only three pairs bred on the CBC plot.

**Crossbill** *Loxia curvirostra* Recorded in eight months of the year at Whipsnade Zoo on the following dates: three on 16th January, two on 11th February with up to eight between 4th and 14th March when a female, with a broken wing, was picked up but died two days later. A single on 11th April was followed by three males on 26th June and another at the month's end. A maximum of eight was noted in August, three on 9th September and finally one on 15th December. This unprecedented series of records is the best at Whipsnade Zoo for 18 years. The Lodge, Sandy had regular sightings of up to four birds until the end of March with three in April, seven on 21st May, 13 on 12th July and two sightings in August. Elsewhere five were at Aspley Heath on 5th May, with one at Everton on 29th March, at least two at Breakheart Hill on 25th April and one at Kempston on 19th August.

**Hawfinch** *Coccothraustes coccothraustes* Seen during the breeding season at Bush Wood, Kidney Wood, Maulden Woods, Old Warden (where a pair with one juvenile was noted on 6th July), The Lodge, Sandy and Luton Hoo. A scattering of winter records from Noon Hill, Lewsey Farm, Luton, Whipsnade Zoo and Wrest Park with one over Blows Downs on 2nd May.

**Yellowhammer** *Emberiza citrinella* An influx during the cold spell, was recorded at Priory Park, with a maximum of 150 on 9th February.

**Reed Bunting** *E. schoeniclus* Winter roosts were counted at Houghton Regis CHP with 20 on 29th March and Priory Park where 30 were present on 19th December. Over 100 were reported from Harrold CP on 23rd April, constituting the largest assemblage of this species for several years. Elsewhere singles were recorded feeding in gardens during February's freeze-up. As a breeding bird still fairly numerous along the county's watercourses with others noted in plantations and even on farmland.

**Corn Bunting** *Miliaria calandra* Still a localised species with the majority of records from the downlands, where 20 pairs were noted during the breeding season between Galley Hill and Stopsley Common. A reed-bed roost at Houghton Regis CHP held up to 40 individuals on 2nd April and at the turn of the year 50 were at Stopsley Common.

## OTHER RECORDS

**Whooper Swan** *Cygnus cygnus* Two feral birds were present all year at Blunham Lake.

**Pink-footed Goose** *Anser brachyrhynchus* A single at Luton Hoo on 9th and 25th April was considered to be an escape.

**Bar-headed Goose** *A. indicus* One reported from the Brogborough/Stewartby Lake area from 3rd November until 19th co-habited with a large flock of Canada Geese.

**Snow Goose** *A. caerulescens* One at Millbrook Pit on 26th January and then two white phase adults in the Marston Moretaine area from early March until at least 29th. With further sightings of one at Kempston Hardwick on 16th May and Radwell GP on 18th.

**Chukar** *Alectoris chukar* On 3rd April a hybrid Chukar x Red-legged Partridge was noted near Luton Hoo, on the border with Herts. A Chukar proper was noted near Brogborough Lake on 13th April with a pair at South Mills Pit on 16th. A road casualty at Woburn on 18th October also proved to be a bird of this species. There seems to be much confusion and misunderstanding concerning the identification of Chukar as they freely hybridise with Red-legged Partridge producing a bewildering array of progeny. Please submit all future records.

**Silver Pheasant** *Lophura nycthemera* A male at Blunham on 28th and 30th November.

**Golden Pheasant** *Chrysolophus pictus* A single female at Luton Hoo in February and a single at Woburn throughout the year were both considered to be escapes.

**ADDITIONS TO 1985 REPORT**

**Scaup** *Aythya marila* After re-examining further evidence the following have been accepted; a female at Stewartby Lake 17th to 18th January (MJP, DJO, AT), an immature/female at Blunham 2nd to 4th February (MJP, DJO) and a long staying duck at Elstow CLP from 15th February to 31st March (MJP, DJO, PT *et al*).

**Goosander** *Mergus merganser* A 'redhead' at Houghton Regis CHP on 11th November 1984.

**SELECTED FIRST AND LAST DATES**

**Summer Migrants**

Species	Arrival	Departure
Hobby	29th April, Priory Park	21st September, Warden Hills
Little Ringed Plover	14th March, South Mills Pit	30th September, Girtford Pit
Common Sandpiper	13th April, South Mills Pit	18th October, Houghton Regis CHP
Common Tern	15th April, Stewartby Lake	21st September, Stewartby Lake
Arctic Tern	15th April, Stewartby Lake	27th August, Stewartby Lake
Black Tern	30th April, Stewartby Lake	14th September, Stewartby Lake
Turtle Dove	26th April, Harrold CP	20th September, Girtford Pit
Cuckoo	17th April, Whipsnade Zoo	5th September, Blows Downs
Swift	27th April, Priory Park	20th September, Priory Park
Sand Martin	15th March, Rookery Pit	14th September, Priory Park
Swallow	16th April, Priory Park	30th November, Blunham Lake
House Martin	31st March, Brogborough Lake	17th November, Whipsnade
Tree Pipit	19th April, Blows Downs	24th September, Blows Downs
Yellow Wagtail	1st April, Priory Park	3rd October, South Mills Pit
Nightingale	3rd May, Old Warden	— — —
Redstart	23rd March, Houghton Regis CHP	5th October, Luton
Whinchat	29th April, Blows Downs	5th October, Dunstable SW
Wheatear	15th March, Blows Downs	24th September, Blows Downs
Ring Ouzel	1st April, Blows Downs	— — —
Grasshopper Warbler	18th April, Marston Thrift	25th August, Chicksands
Sedge Warbler	17th April, Priory Park	27th September, Priory Park
Reed Warbler	26th April, Harrold CP	11th October, Priory Park
Lesser Whitethroat	24th April, Warden Hill	28th September, Dunstable SW
Whitethroat	24th April, Warden Hill	21st September, Warden Hill
Garden Warbler	26th April, The Lodge, Sandy	24th September, Blows Downs
Wood Warbler	20th April, The Lodge, Sandy	— — —
Willow Warbler	2nd April, Twin Bridges Pit	8th October, East Hyde
Spotted Flycatcher	4th May, Aspley Heath	21st September, Whipsnade Zoo
Pied Flycatcher	29th April, Amptill Park	13th August, Barton Hills

**Winter Migrants**

Species	Departure	Arrival
Fieldfare	5th May, Blows Downs	20th September, Battlesden Lake
Redwing	20th April, Luton	4th October, Blows Downs
Brambling	3rd May, Blows Downs	5th October, Everton
Siskin	21st May, Whipsnade Zoo	19th October, Clophill

PAUL TRODD

## BEDFORDSHIRE BIRD LIST

By Paul Trodd — Bird Recorder

A complete list of Bedfordshire bird species has been drawn up after consultation with the Local Rarities Committee which comprises A. J. Livett, B. Nightingale, M. J. Palmer, Dr J. T. R. Sharrock and D. S. Woodhead. Advice on national rarities was given by M. J. Rogers, Secretary of the British Birds Rarities Committee.

The following codes are used in the bird list and indicate the type of annual records required by the recorder. Free record cards are available from the recorder and it would be appreciated if everyone could submit their year's records on these cards. For species requiring written descriptions free rarities forms are available from the recorder and it would be much appreciated if these could be submitted throughout the year as this eases the workload on the local committee and ensures the annual report covers as many records as possible. Please also include records of subspecies, e.g. Blue-headed Wagtail, and escapes, e.g. Snow Goose.

- A — Records of large numbers required by Recorder.
- B — Arrival and departure dates required by Recorder.
- C — All breeding records required by Recorder.
- D — All records required by Recorder.
- E — Written description required by County Rarities Committee.
- F — Written description required by British Birds Rarities Committee.

### BIRDS RECORDED 1946-1986

Red-throated Diver	DE	Shelduck	CD	Hobby	D
Black-throated Diver	DE	Mandarin	CD	Peregrine	DE
Great Northern Diver	DE	Wigeon	D		
		Gadwall	CD	Red-legged Partridge	A
Little Grebe	AC	Teal	AC	Grey Partridge	AC
Great Crested Grebe	AC	Mallard	A	Quail	DE
Red-necked Grebe	DE	Pintail	D	Pheasant	A
Slavonian Grebe	DE	Garganey	CD	Golden Pheasant	D
Black-necked Grebe	DE	Showeler	AC	Lady Amherst's Pheasant	D
		Red-crested Pochard	DE		
Fulmar	DE	Pochard	AC	Water Rail	D
Manx Shearwater	DE	Ring-necked Duck	F	Spotted Crake	DE
		Ferruginous Duck	DE	Corncrake	DE
Storm Petrel	DE	Tufted Duck	AC	Moorhen	A
Leach's Petrel	DE	Scaup	DE	Coot	A
		Eider	DE		
Gannet	DE	Long-tailed Duck	DE	Oystercatcher	D
		Common Scoter	DE		
Cormorant	D	Velvet Scoter	DE	Black-winged Stilt	F
Shag	DE	Goldeneye	D	Avocet	DE
		Smew	DE		
Bittern	DE	Red-breasted Merganser	DE	Stone Curlew	DE
Night Heron	F	Goosander	D		
Little Egret	F	Ruddy Duck	D	Collared Pratincole	F
Grey Heron	AC				
Purple Heron	DE	Honey Buzzard	DE	Little Ringed Plover	D
		Red Kite	DE	Ringed Plover	D
White Stork	DE	White-tailed Eagle	F	Kentish Plover	DE
		Marsh Harrier	DE	Dotterel	DE
Mute Swan	AC	Hen Harrier	DE	Golden Plover	D
Bewick's Swan	D	Montagu's Harrier	DE	Grey Plover	DE
Whooper Swan	DE	Goshawk	DE	Lapwing	AC
Bean Goose	DE	Sparrowhawk	D		
Pink-footed Goose	DE	Buzzard	DE	Knot	DE
White-fronted Goose	DE	Rough-legged Buzzard	DE	Sanderling	DE
Greylag Goose	AC			Little Stint	DE
Canada Goose	AC	Osprey	DE	Temminck's Stint	DE
Barnacle Goose	DE			Baird's Sandpiper	F
Brent Goose	DE	Kestrel	AC	Pectoral Sandpiper	DE
Egyptian Goose	DE	Merlin	DE	Sharp-tailed Sandpiper	F

Bedfordshire Naturalist for 1986, No. 41

Curlw Sandpiper	DE	Tawny Owl	A	Chiffchaff	B
Purple Sandpiper	DE	Long-eared Owl	D	Willow Warbler	B
Dunlin	D	Short-eared Owl	D	Goldcrest	ABC
Ruff	D			Firecrest	DE
Jack Snipe	AC	Nightjar	D		
Snipe	AC			Spotted Flycatcher	B
Great Snipe	F	Swift	AB	Pied Flycatcher	DE
Woodcock	D				
Black-tailed Godwit	DE	Kingfisher	D	Bearded Tit	DE
Bar-tailed Godwit	DE				
Whimbrel	D	Hoopoe	DE	Long-tailed Tit	A
Curlw	D				
Spotted Redshank	D	Wryneck	DE	Marsh Tit	C
Redshank	D	Green Woodpecker	A	Willow Tit	C
Greenshank	D	Great Spotted Woodpecker	A	Coal Tit	A
Green Sandpiper	D	Lesser Spotted Woodpecker	D	Blue Tit	A
Wood Sandpiper	DE			Great Tit	A
Common Sandpiper	D	Woodlark	DE		
Turnstone	D	Skylark	AC	Nuthatch	A
Wilson's Phalarope	F	Shorelark	DE		
				Treecreeper	
Pomarine Skua	DE	Sand Martin	ABC		
Great Skua	DE	Swallow	AB	Golden Oriole	DE
		House Martin	AB		
Mediterranean Gull	DE			Red-backed Shrike	DE
Little Gull	D	Tree Pipit	D	Great Grey Shrike	DE
Black-headed Gull	AC	Meadow Pipit	AC	Woodchat Shrike	F
Common Gull	A	Rock Pipit	DE		
Lesser Black-backed Gull	AC	Water Pipit	DE	Jay	A
Herring Gull	A	Yellow Wagtail	ABC	Magpie	A
Iceland Gull	DE	Grey Wagtail	D	Jackdaw	A
Glaucous Gull	DE	Pied Wagtail	A	Rook	A
Great Black-backed Gull	A			Carrion Crow	A
Kittiwake	DE	Waxwing	DE	Raven	DE
Caspian Tern	F	Wren	A	Starling	A
Sandwich Tern	DE			Rose-coloured Starling	F
Common Tern	D	Duncock	A		
Arctic Tern	D			House Sparrow	A
Little Tern	DE	Robin	A	Tree Sparrow	A
Black Tern	D	Nightingale	D		
White-winged Black Tern	F	Black Redstart	D	Chaffinch	A
		Redstart	D	Brambling	D
Guillemot	DE	Whinchat	D	Serin	DE
Razorbill	DE	Stonechat	D	Greenfinch	A
Little Auk	DE	Wheatear	D	Goldfinch	A
Puffin	DE	Ring Ouzel	D	Siskin	D
		Blackbird	A	Linnet	A
Rock Dove (Feral Pigeon)	A	Fieldfare	AB	Twite	DE
Stock Dove	A	Song Thrush	A	Redpoll	AC
Woodpigeon	A	Redwing	AB	Crossbill	D
Collared Dove	A	Mistle Thrush	A	Bullfinch	A
Turtle Dove	AB			Hawfinch	D
		Grasshopper Warbler	D		
Ring-necked Parakeet	D	Sedge Warbler	AB	Lapland Bunting	DE
		Reed Warbler	ABC	Snow Bunting	DE
Cuckoo	AB	Lesser Whitethroat	ABC	Yellowhammer	A
		Whitethroat	ABC	Cirl Bunting	DE
Barn Owl	D	Garden Warbler	AB	Reed Bunting	A
		Blackcap	B	Corn Bunting	A
Little Owl	D	Wood Warbler	D		

### BIRDS RECORDED PRIOR TO 1946

American Bittern	F
Little Bittern	F
Little Crake	F
Red-necked Phalarope	DE
Grey Phalarope	DE
Pallas's Sandgrouse	F

### DOUBTFUL RECORDS

The following have been recorded prior to 1946 but are listed in appendices because the County Rarities Committee considered further details were required for inclusion within the main list. Please contact the recorder if any information is known.

Spoonbill  
Great Bustard  
Black Guillemot  
Dipper  
Marsh Warbler  
Red-breasted Flycatcher  
Lesser Grey Shrike  
Two-barred Crossbill

### RECORDS AWAITING CONFIRMATION

The following are awaiting adjudication by the Local and National Rarities Committees:

Subalpine Warbler	National R.C.
Richard's Pipit	Local R.C.
Ring-billed Gull (1987)	National R.C.



*Ring Ouzel. Blows Downs, April 1986 (Andy Chick)*

## THE FIRST BREEDING RECORD OF RUDDY DUCK *OXYURA JAMAICENSIS* IN BEDFORDSHIRE

By P. Smith

The first authenticated record of Ruddy Duck in the county was published in the Journal for 1980 (*Bedf. Nat.* 35 14). A duck was seen at Barkers Lane Gravel Pit, Bedford on 12th December and stayed until the end of the year. There is a possible earlier record of one male and two females at Stewartby Lake on 15th/17th January 1962 which was brought to my attention by Peter Wilkinson. This record was never officially published, probably because of the likelihood of escapes, but it was mentioned in the *Bedfordshire Birds Newsletter* which was in circulation at that time.

The occurrence of Ruddy Duck in the county had been expected for some time with the spread of the species from its stronghold in the West Midlands. The following is a chronological account of the records that have appeared in the *Bedfordshire Naturalist* since 1980, supplemented by comments and extracts from my notebooks where applicable.

**1981** (*Bedf. Nat.* 36 30). Eight individual birds were released at Blunham Lake. Apart from these, singles were seen at Barkers Lane GP in January, August, September and December, Tiddenfoot GP in April, Radwell GP in August and September and at Brogborough Lake in December.

**1982** (*Bedf. Nat.* 37 27). Single birds were seen at Barkers Lane GP on 10th and 12th January, Dunstable SW on 17th to 23rd January, Southill Lake 4th April and Radwell GP 12th December.

**1983** (*Bedf. Nat.* 38 27). The first possible breeding activity was reported from a site in mid-Bedfordshire where two pairs stayed throughout the summer and displaying took place, but no proof of breeding was found. Other records for that year were: Barkers Lane GP a single on 1st January, a further single on 25th March and two from 26th February to 6th March, followed by further singles on 28th March and from the 11th to 20th November. Two were seen at Stewartby Lake on 30th April, two at Woburn Lake on 11th March, three at Brogborough Lake on 21st August with two different birds there on 18th September, a single on 13th November at Radwell GP and at Harrold GP on 26th December. A note was made by the Bird Recorder that some of these records may have originated from the releases at Blunham.

**1984** (*Bedf. Nat.* 39 20). A drake was seen at Brogborough Lake on 8th January, two immatures at Stewartby Lake on 12th February, two drakes at Barkers Lane GP on 15th May and a duck at the same locality on 29th November. A drake was at Brogborough Lake on 26th October and an immature at the same locality on 25th November.

**1985** (*Bedf. Nat.* 40 27). During the severe weather of January and February, unprecedented numbers of Ruddy Duck were seen in the county with five at Stewartby Lake on 10th January increasing to eight on 12th, nine on 18th and finally a peak of ten on 27th January. On 3rd February there were six at Harrold GP. Numbers at both localities declined towards the spring.

The following extracts are from my own notebook and refer to Battlesden Lake in south west Bedfordshire. On 30th June 1985 the first male bird was seen and showed very aggressive behaviour towards me, slapping its breast with its bill causing water to splash up. I considered the possibility of a sitting female and again on 6th July the male was very aggressive and came within 25 feet of me which this time included head jerking. 13th July – for the first time I saw both male and female birds, but no sign of young. 20th July – there were two males and one female present and one of the males was particularly attentive towards the female. 17th August – a little confusion; as there were now three

*Address: The Old Coach House, Heath Lane, Aspley Heath, Woburn Sands, Milton Keynes MK17 8TN*

males in eclipse and one female, but still no sign of any young. 24th August – at last a female with a single downy young which I estimated to be 14 days old, this historic occasion was the first proved breeding record of Ruddy Duck in the county. 7th September – female with well grown young swimming together. 19th October – a single female and finally on 28th December two birds were present.

My main concern during my observations was the very late breeding pattern shown by this pair of Ruddy Duck. *Birds of the Western Palearctic* states that most broods are laid in June/July with a clutch size of six to ten eggs which are incubated by the female for a period of 25/26 days and the young have a fledgling period of 50/55 days. The young bird when I first saw it, was, in my estimation, fourteen days old, and would have therefore hatched on or near 10th August, reaching maturity around the end of September/early October. According to the *Birds of the Western Palearctic* young ducklings have been recorded up to the end of October.

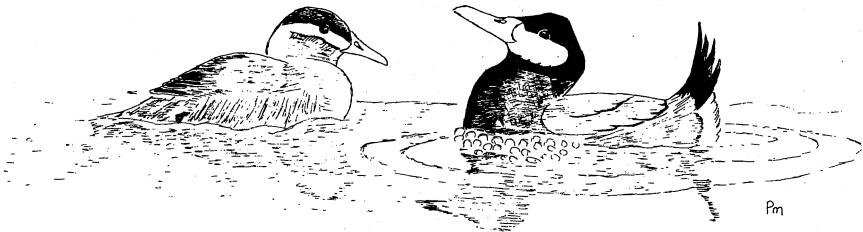
Battlesden Lake is highly suitable habitat for breeding Ruddy Duck having a small but dense reed bed at one end, and is similar to the breeding lake I know in southern Spain for the closely related White-headed Duck. During 1985 there were other summering birds at Stewartby Lake, Luton Hoo, Barkers Lane GP, the River Ouse and the feral population at Blunham GP was still present.

1986 (see p.34). These records are again directly from my own notebook. The first sighting of two males was on 5th April and by 26th April numbers had increased to four males and one female. On 3rd May a male and female had paired off and there was no other Ruddy Duck present. Numbers then began to fluctuate as follows: 6th May – two males and one female, 24th May – a single pair, 31st May – I was amazed to find three pairs plus one extra female, then on 21st June – two females and one male. Further confusion on 19th July and 2nd August when two males were present but no sign of females. The apparent erratic fluctuation of numbers of Ruddy Duck present can partly be explained in that the females are extremely difficult to see and often remain in the reed bed especially when sitting on eggs. I am also of the opinion that the size of Battlesden Lake only allows one or at the most two pairs to breed and therefore the weaker birds would be driven off by the resident pair.

On 6th September two females were seen and finally, when I had almost given up hope of any breeding success, on 20th September a female came out of the reed bed proudly followed by four downy young that I estimated to be 21 days old. Despite several subsequent visits the young were not seen again and unfortunately I have to conclude that they did not reach maturity. There were several obvious dangers, amongst these being a resident well-grown family of six Mute Swans (who are known to kill young ducklings), Pike in the lake and a Rat population. Only single birds were seen on 25th October and 8th November.

There are several other suitable breeding localities available in Bedfordshire and let us hope this unique and delightful little duck will take advantage of them.

I would like to thank Paul Trodd for reading and commenting on the text of this article and Peter Marshall for drawing the accompanying vignette.



Ruddy Duck

(Peter Marshall)

## BIRD RINGING REPORT

### Report of the Co-ordinator

The year proved to be a disappointing one largely due to the inactivity of ringers within the county. The total of 814 birds ringed was well down on previous years. The details are shown in the list below. With the number of birds ringed reduced, the number of recoveries have suffered. Two foreign recoveries were received; a Pochard GJ18426 in Italy and a Sand Martin A819599, also shot, in southern Spain on return migration. The latter recovery is particularly of note for the age of the individual as well as the recovery site. The method of recovery unfortunately still indicates the problems that are still present in many Mediterranean countries. Other recoveries of note are the Snipe XH68002 recovered in Eire, the Swallow from Scotland and Great Tit at Gibraltar Point (a species you do not expect to move that sort of distance). The Starling recovery was included for its longevity, 8 years old when found dead.

#### RINGING TOTALS FOR 1986

Mute Swan	1	Pied Wagtail	10	Chiffchaff	1
Greylag Goose	35	Grey Wagtail	1	Willow Warbler	33
Canada Goose	78	Wren	4	Spotted Flycatcher	9
Mallard	9	Duncock	13	Willow Tit	2
Moorhen	6	Robin	7	Blue Tit	22
Lapwing	4	Wheatear	1	Great Tit	6
Common Tern	3	Blackbird	11	Treecreeper	1
Cuckoo	2	Song Thrush	9	Chaffinch	12
Swift	12	Sedge Warbler	68	Redpoll	3
Kingfisher	2	Reed Warbler	69	Greenfinch	11
Sand Martin	1	Lesser Whitethroat	8	Goldfinch	10
Swallow	102	Whitethroat	17	Bullfinch	14
House Martin	179	Garden Warbler	5	Reed Bunting	18
Meadow Pipit	6	Blackcap	9		
				TOTAL	814

**ACKNOWLEDGEMENTS** I would like to thank the following ringers who are active in the county for the submission of their records: E. Newman, P.J. Wilkinson and M.A. Woodhead.

species	ring number	age code	sex	ringing and recovery dates	ringing and recovery location	recovery manner	distance (km) and direction
Mute Swan	Z50481	5		1.1.83 15.3.86	Harrold GP Braham, Ely, Cambs	X	60 — ENE
Canada Goose	L04206	1		21.6.85 24.4.86	Harrold GP Steeple Claydon, Bucks	+	40 — SW
Pochard	GJ18426	2	♂	26.12.81 29.12.85	Blunham Commacchio, Italy	+	1240 — SE
Snipe	XH68002	4		15.9.79 20.11.85	Harrold GP Kinnefad, West Meath, Eire	+	456 — W
Sand Martin	A819599	3	J	10.8.80 27.4.86	Radwell GP Delta Del Ebro, Tarragona, Spain	+	1286 — S
Swallow	E255593	3		7.9.86 17.9.86	Ladymire, Grampian Region, Scotland Harrold GP	V	581 — SSE
House Martin	C416159	4		12.5.85 10.6.86	Harrold GP Longton, Lancashire	X	226 — NW
	C870856	3	♀	19.9.85 21.9.86	Ingatestone, Essex East Hyde	V	59 — NW
Reed Warbler	B928415	3	♂	17.8.84 24.5.86	Saltfleetby, Lincs Harrold GP	V	142 — SSE
Great Tit	C416235	3	J♂	16.6.85 29.3.86	Odell Woods Gibraltar Point, Lincs	V	117 — NNE
Starling	XH04473	5	♂	29.6.79 17.4.86	Carlton Carlton	X	—

Euring age code:

- 1 Pullus: nestling or chick
- 2 Fully grown, but year of hatching unknown
- 3 Hatched during calendar year of ringing (J — juvenile plumage)
- 4 Hatched before calendar year, but exact year unknown
- 5 Hatched during previous calendar year
- 6 Hatched before previous calendar year but exact year unknown

Sex: ♂ male  
♀ female

Recovery manner:  
V — controlled  
+ — shot or killed  
X — found dead or dying

D.S. WOODHEAD

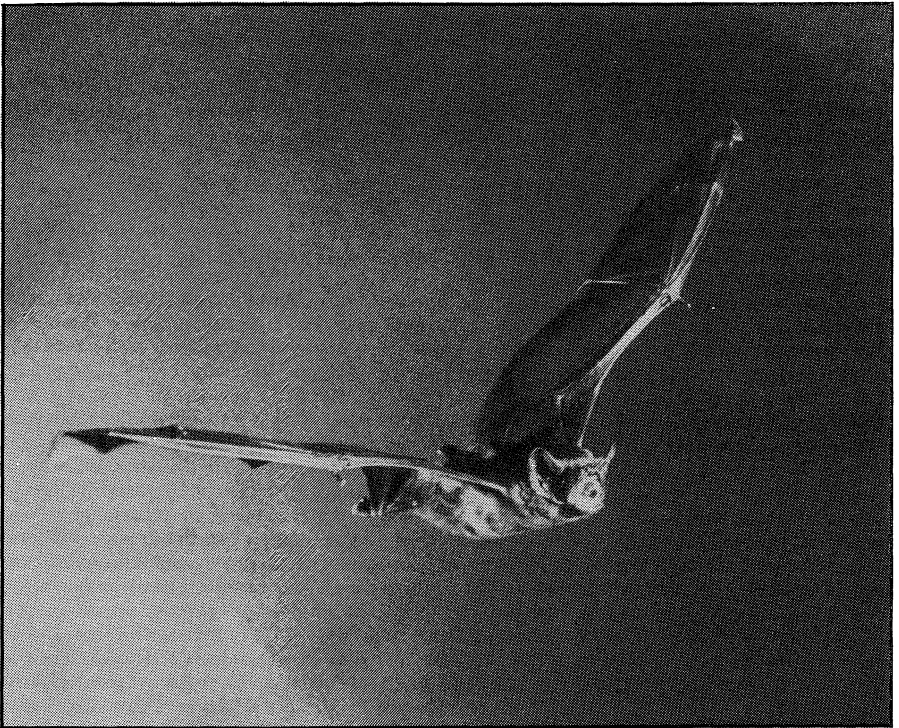


## MAMMALS

### Report of the Recorder

For the past 15 years, the Mammal Report has been prepared on the basis of recording each species as present or absent in each tetrad (a square of 2 km x 2 km) of the county. This shows distribution, but not density, so from this year onwards the aim is to try to obtain more information on the density of each species, and compare it year to year, to see if species numbers are increasing, remaining stable or declining. To this end would contributors in future years make efforts to list the numbers animals seen, and if they were adults or young, and alive or dead.

1986 was a mixed year for our mammals, with some species being hard hit by the long and cold winter, while other species showed what I would consider to be an increase in numbers. The Hedgehog was our third most recorded species, and certainly survived the winter in good numbers, its late emergence from hibernation being after the cold weather. The first sightings in 1986 were on 10th March in Bedford, and the 18th March in Luton, compared to the first report in 1985 being later, on the 8th April. During the summer Hedgehogs were reported as common and widespread. Very few reports of breeding were obtained, but there were signs that breeding went on late into the autumn, with one member reporting many young and underweight animals about in November. The last sightings of the year were on 24th November in Barton, 30th November in Maulden and 8th December in Luton. This last record was of a good size adult animal. The last sighting in 1985 was on 5th December, so the dates are very similar.



*Noctule Bat. Note the long narrow wings for high, fast and straight line flight. This bat is usually seen early in the evening, often feeding with Swifts. (Photo: Ralph Newton)*

Bat records were obtained for Brown Long-eared, Natterer's, Pipistrelle and a new species for Bedfordshire, the Whiskered. The first flying Bats were seen on 1st May, at both Bedford and Studham. In 1985 the first Bat was seen on 2nd April, a whole month earlier! The last flying Bat was reported on 13th October. Natterer's Bats were only seen during hibernation, but several summer roosts of Brown Long-eared Bats were found at Whipsnade Zoo. Pipistrelles, always the most common species, were much around during the summer, and visits were made to house roosts in Woburn Sands, where 42 Bats were counted leaving the site, Leighton Buzzard, Edlesborough and Luton. However, in late summer several reports were received of youngsters being found on the ground under roost sites. The reason for this is not clear, but it could be cold, lack of food or chemical poisoning. The Whiskered Bat — the first new species to the county list for two years, was a single animal found under the roof tiles of a farm house at Brogborough. Unfortunately the animal was killed in the roof removal, and no other Bats were found anywhere else in the whole of the roof. Although this is the first record of this species in Bedfordshire for over 26 years, it is found in adjacent counties, and has been expected for some years. This makes it doubly welcome, both as a new species to our list, and as confirmation of predicted records. All other records of flying Bats of unknown species were for small numbers of up to four, except for one roost site at Old Warden, where 50 were counted. Two studio photographs of Bats taken by Ralph Newton are included with this report.

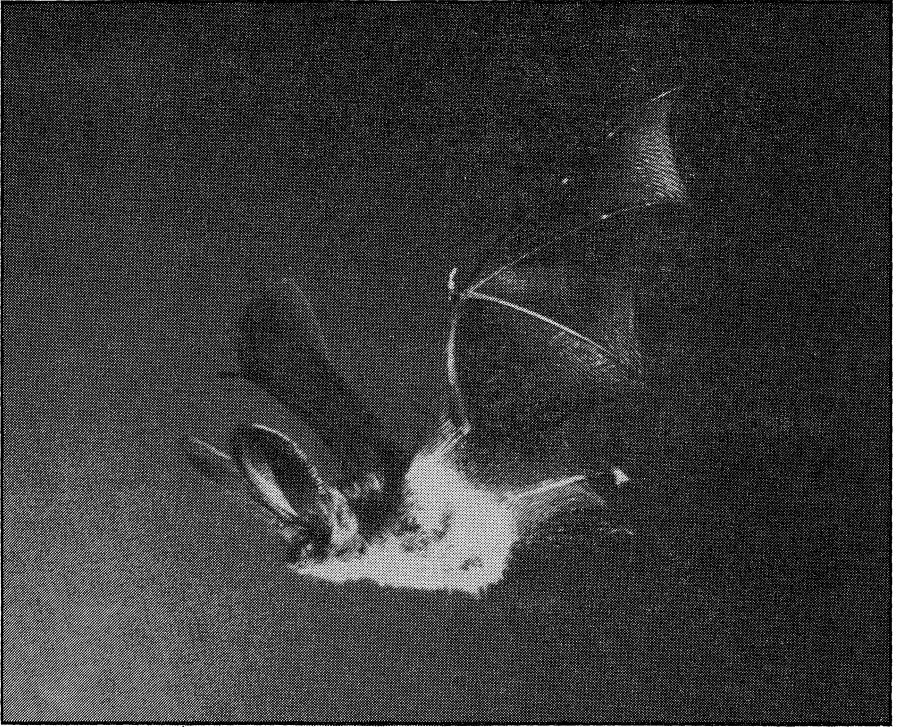
Brown Hares were reported from many sites, and often in good numbers. A total of about 130 were seen at Old Warden in March, while groups of 39, 20, 13, 10, 9 and 8 were seen at other sites and other times of the year. Many other records were received of ones and twos from all over the county. It seems that the Brown Hare had a good year, and let us hope the upward trend continues in the following years.

Two separate and widely spaced examples of the black colour phase, or melanistic, Grey Squirrel were reported. It is some years since this form has been seen, but it is not that uncommon. Often Black Squirrels are reported from Woburn, and Battlesden, but this time the sightings were from different locations. The normal Grey Squirrel did well all over the county, being recorded in a large number of sites, although no one recorded any confirmed breeding. However, I am sure this was an oversight rather than the actual situation.

Small mammals had a traumatic year as a result of the very cold and long winter of 1985/86. A trapping session in March produced the result of a zero catch from 17 trap nights. This complete failure result has never been experienced before, and I hope will never be experienced again! A few Wood Mice were recorded at another site, also in March, but other species did not start showing up again until May, and more commonly in August and September. This was far too late for their main predators the Fox and Owls, and poor breeding results from the Owls is to be expected due to this food shortage. Barry Stephenson's report is typical of this situation, stating that "small mammal trap results were at least 75% down, for the same level of trapping in 1986 as in 1985. The pair of Tawny Owls who raised two young in our vicinity in 1985, deserted completely in 1986." Foxes would not have been affected so much, as they will turn to other forms of food if small mammals are not available. However, no signs of a population drop in the Fox was observed, but no data was obtained on breeding to allow comparisons in that area. By the time of the small mammal trap meeting in Maulden Wood in September, numbers had recovered somewhat. In that trap, no catches were obtained for Bank and Short-tailed Voles, or for Harvest Mice, species that in previous years had been found at the site. However, both Common and Pygmy Shrews, and Wood Mice were found in average numbers. Overall for the year, small mammal numbers for all species were very depressed, with perhaps Wood Mice and Common Shrews showing the best rate of recovery, which may in turn hold down the numbers of the other species in future years.

During the year an interesting paper was published by Dr S. Harris of Bristol University, on the urban Fox in England. From his mathematical model of populations Luton should have a density of 0.2 families per square kilometre. This is certainly not obtained in real life, but why Luton is lacking in urban Foxes compared to the rest of the country is not understood. Members should keep their eyes open for Foxes in Luton, as we are possibly ripe for colonization and a population increase.

Stoats and Weasels showed the same imbalance as they have for several years past, with almost twice as many Stoats being seen as Weasels. Two interesting records of Stoats were made during



*Brown Long-eared Bat. Note the broad wings for slow hovering flight around trees, taking insect food from the leaves. (Photo: Ralph Newton)*

the year. The first was of an animal in three quarters white coat during March, but on the same day and in the same area, a normal brown coloured animal was also seen. The second record was of a Stoat found dead on the road, but examination showed it to only have three legs. The position of the missing leg was in no way damaged, suggesting the leg was not present at birth, or its loss was a considerable time before the animal's death. In either case the Stoat was able to live and feed satisfactorily, no mean feat for a carnivore! The body was deposited at Bedford Museum, and further examination, it is hoped, will explain the cause of the loss of the leg.

Badgers seemed to have a good year with setts looking good and active. Four animals were known to have been killed on the roads, and one sett was dug, which although not good news, was a fairly low level. Also at a low level were the number of reported Badger watches. However, these watches produced Badger numbers higher than previous years for both cubs and adults, a result borne out by general observation of sett use. From a total of 167 known setts in the county, 124 were estimated to be active, giving a percent active figure of 74%. In 1978, John Green estimated that 51% of known setts were active, while in 1983 John Green and myself estimated that only 47% of known setts were active at that time. As the 1986 result is very much higher, the exact level may be uncertain, but the trend is certainly correct, which is excellent news. Estimated figures were also calculated at 0.4 Badgers per square kilometre for the whole county, and 1.3 setts per 10 square kilometres, both low levels when compared to some parts of the southern England. As in 1985, another long disused sett has come back into very active use, another sign perhaps of the increase in Badger levels. No main setts were lost, changing from 'active' to 'disused', although that did

Species	Number of tetrad records		Tetrad coverage 1971-85
	1971-85	1986	
Rabbit	342	28	
Mole	299	15	
Harvest Mouse	280	0	
Brown Hare	243	34	51-100%
Hedgehog	239	29	(Common)
Rat	208	10	
Grey Squirrel	198	25	
Fox	197	29	
Wood Mouse	172	10	
Common Shrew	167	5	
Short-tailed Vole	158	4	
Stoat	149	15	26-50%
Weasel	145	9	(Frequent)
Muntjac Deer	136	36	
Bank Vole	109	3	
Badger	99	27	
Water Vole	85	1	
House Mouse	79	4	11-25%
Pygmy Shrew	68	3	(Scarce)
Pipistrelle Bat	41	1	
Water Shrew	31	1	
Chinese Water Deer	24	3	6-10%
American Mink	20	2	(Rare)
Brown Long-eared Bat	18	4	
Fallow Deer	16	4	
Ferret	13	0	
Daubenton's Bat	6	0	
Red Deer	6	0	
Natterer's Bat	4	2	
Noctule Bat	4	0	
Edible Dormouse	4	1	0-5%
Dormouse	3	0	(Vulnerable)
Yellow-necked Mouse	3	1	
Sika Deer	3	1	
Wallaby	1	0	
Barbastelle Bat	1	0	
Otter	1	0	
Whiskered Bat	0	1	(Absent)

*Table. Comparison of tetrad records for 1986 with those for 1971-1985*

happen with a few 'outlier' setts. However, the number of these was outnumbered by the same type of setts that changed the other way, and became active.

Muntjac Deer also had a good year, being seen in a large number of tetrads, from all over the county. This small versatile deer will live in all types of habitats, which allows it to be so successful. Fallow and Chinese Water Deer were reported in about the numbers expected, but only in the known territories in the S.E. corner of the county, so no expansion of their range was made. None of the 'out of park', Woburn, Red Deer were seen in 1986, although that does not as yet mean they no longer exist. Only one report of the Sika Deer in the same area was received, and that for only two animals, so they also showed a decline as far as our observations are concerned.

The table shows all the species recorded since 1971. As the 1971-85 list is in descending order of frequency, the relationship of the number of tetrads recorded in 1986 can easily be made, and improvements or losses seen. In 1986 a total of 29 species were recorded compared with 28 in 1985, and 37 in the years 1971-85.

What I think is a new record for the number of contributors was made in 1986, and I am very grateful to them all, whether they are old faithfuls or new names. A total of 47 people contributed to the records, made up of 34 members and 13 non-members. There are also some extra records and contributors that could not be included, due to the late submission of their records. My thanks to you all for your hard work. The contributors are listed below:-

A. Aldhous, D. Allen, M. Allen, R. Allen, D. Anderson, V. Arnold, D. Balcombe, C. Banks, A. Brown, C. Burton, A. Catchpole, R. Catchpole, S. Cham, B. Champkin, A. Chapman, J. Chapman, J. Childs, B. Clutton, R. Dazley, L. Evans, A. Ferguson, G. Frost, S. Halton, N. Hele, G. Hooper, M. Hooper, L. Jarrett, J. Kemp-Gee, J. Knowles, B. Munn, D. Nicholls, D. Nightingale, D. Parsons, K. Parsons, D. Rands, E. Rands, M. Robb, M. Rowlands, L. Smith, R. Spicer, B. Squires, B. Stephenson, C. Tack, P. Trodd, P. Underwood, C. Wallbank, A. Woodgate.

DAVID ANDERSON



*Short-tailed Vole*

(Photo: Mary Sheridan)

## REPTILES AND AMPHIBIANS

### Report of the Recorder

I was appointed as Reptile and Amphibian Recorder for the BNHS in 1977, so 1986 marks the tenth year of my work. I consider ten years is the best time span to use to monitor changes in distribution patterns in species which are scarce and under threat as our herptiles are to varying degrees. The distribution maps are therefore published to accompany this report to show the picture built up over the last ten years and these can then be compared with future maps to determine changes in distribution of each species should they occur.

In my report for 1985, I stated that it was planned to conduct a survey of amphibians in garden ponds. The project has been started but, as it is incomplete, with at least two more years' work needed, the results are not included in the maps or in this report but will be published as a separate report in the *Bedfordshire Naturalist* when the work is complete. The survey started in the spring of 1986 and a simple questionnaire was distributed to garden pond owners in a variety of ways. At the start of the project, Rosemary Brind put on a display of "Amphibians in the Garden Pond" at the Bedford Museum and had survey questionnaires there for completion. She also issued a press release to the local newspapers in the town to jointly publicise the museum display and the survey. The response to the subsequent newspaper items was quite startling. Many people rang me with records and requests for questionnaires and eventually just over 50 completed ones were returned. I was also asked to do an interview for Radio Bedfordshire to explain the purpose of the survey and this brought in a few more records.

The Beds and Hunts Wildlife Trust kindly included a survey questionnaire in their newsletter and several Trust members completed them. So far the Bedford area has been well covered and in 1987 it is planned to publicise the survey in the rest of the county.

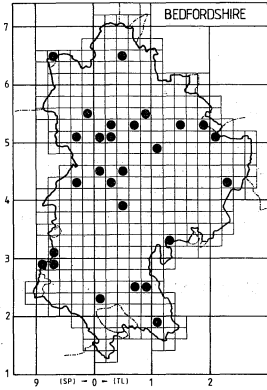
General recording work continued as usual during the year. Throughout my time as Recorder no Grass Snake breeding sites have been pinpointed. There were a couple of reports of sites where very small snakes had been seen but the actual site where the eggs were laid was not found. Then in 1986 two people found Grass Snake eggs in their compost heaps. Dr J.T.R. Sharrock found some in his garden at Blunham and Mrs C. Ryan dug some out of her compost heap in her garden at Willington. A further site at Riseley is thought to house an incubation site and there is another near a farm at Souldrop where hatchling snakes are regularly seen. A manure heap at another farm is believed to be the incubation site here but this has yet to be proven. There were two Grass Snakes killed on the roads; one was found between Riseley and Swineshead and the other was between Carlton and Felmersham. A dead Grass Snake (2'9") was found at Bromham Mill by the Countryside Ranger who considered it likely that it had been killed by an animal such as a fox or mink. Another dead snake was found at Mowsbury Park childrens' playground. It had been killed by a blow to the head. Rosemary Brind was given the body and it was dissected to look for internal parasites; there were none. This snake is now in the museum's collection. Live Grass Snakes were seen at Sharnbrook, Souldrop, Felmersham, Stagsden Road in Bromham, near Bromham Mill, Thurlleigh, Riseley and at Elstow Rubbish Tip. A sloughed skin was found at Everton.

There was only one Adder record, which was of one that bit a dog on Barton Hills.

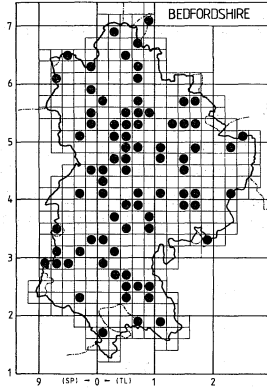
A colony of Common Lizards in a garden near the Avon Drive roundabout in Brickhill was reported and they were also seen at Cople Pits Nature Reserve and Old Warden Tunnel Nature Reserve. Mr Gardner of Clophill told me that he has a colony of Slow Worms on a bank in his garden. They were also seen on Dunstable Downs and at Whipsnade Zoo.

Most records of Common Frog, Common Toad and Smooth Newt came from the garden pond survey whose results have yet to be analysed. A few of the non-garden records were of Common Toads at Houghton House at Amphill, Sharnbrook, Marston Moretaine and Old Warden Tunnel Nature Reserve and of Common Frog at Marston Moretaine.

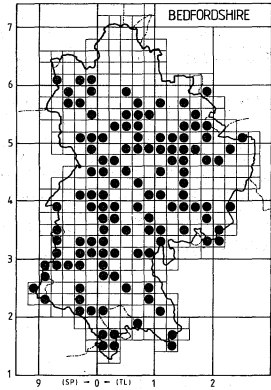
Great Crested Newts continue to be found at Bromham in the Lower Farm Road area where there is a good breeding colony and also at the Moat House in Bedford. There is a breeding colony in a pond at Tempsford whose numbers are thought to have declined and this will be investigated in the spring of 1987. Their presence at Cople was confirmed but as yet their breeding site has not been determined.



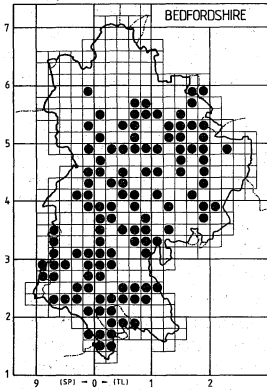
**Warty or Great Crested Newt**  
*Triturus cristatus*



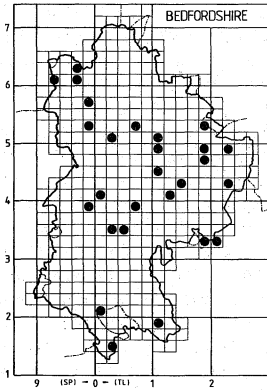
**Common or Smooth Newt**  
*Triturus vulgaris*



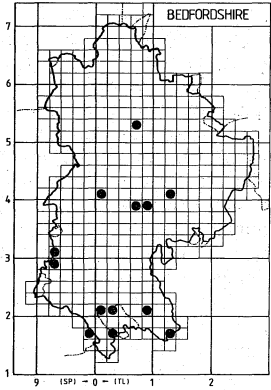
**Common Toad**  
*Bufo bufo*



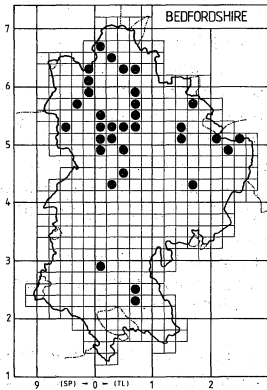
**Common Frog**  
*Rana temporaria*



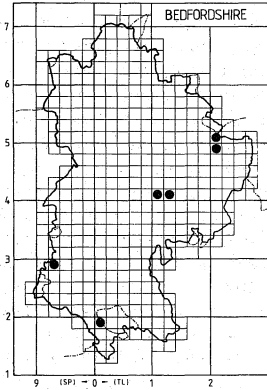
**Common or Viviparous Lizard**  
*Lacerta vivipara*



**Slow Worm**  
*Anguis fragilis*



**Grass Snake**  
*Natrix natrix*



**Adder**  
*Vipera berus*

*Distribution maps of Reptiles  
and Amphibians as at 31.12.86.*

I would like to thank everyone who sent in records and to thank Rosemary Brind for her help with the garden pond survey.

#### NOTE — Adder distribution map

I have not marked on the map a possible site for Adders but would like this information to appear with this summary of results for sightings up to 1986. In 1980 a dog was taken ill during a walk at Ravensden. The vet diagnosed the illness as being due to an Adder bite and the dog recovered after being given anti-serum. This incident happened in TL05S. No other records exist of Adders in this area.

HELEN M. MUIR-HOWIE

## FISH

### Report of the Recorder

In 1983 Anglian Water surveyed the downstream section of the Great Ouse from Fenlake to Wyboston and the results were published in the Journal for that year (*Bedf. Nat.* 38 39-41). The same stretch of river was surveyed again in 1986 and a copy of the report was kindly supplied to us. Unfortunately, the format of the table giving details of population densities has been altered, thus it is difficult to obtain an accurate assessment of comparative abundance per species. However, the report did provide us with ten new county tetrad records.

A much more detailed picture was given about the contribution of each species by weight to the mean biomass. The following lists this in order of importance with, where known, the 1983 figures given in brackets (the reason for the gaps is because, in 1983, nine species — namely Tench, Eel, Perch, Bleak, Silver Bream, Roach/Bream Hybrids, Dace, Carp and Rudd — together made up only 9% of the total mean biomass and no details were given of their individual contributions): Roach 34% (29%), Pike 17% (13%), Chub 10% (6%), Common Bream 8% (36%), Tench 7%, Gudgeon 5% (3%), Bleak 5%, Eel 4%, Carp 4%, Dace 3% and Ruffe 2% (4%).

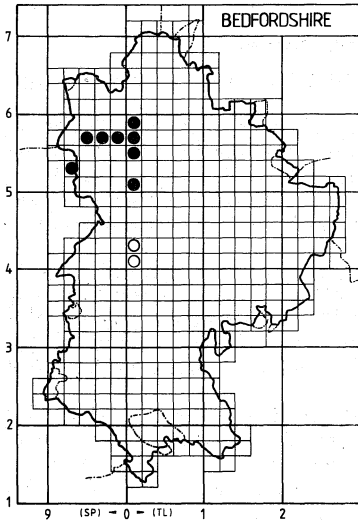
It is dangerous to assume a direct correlation between biomass and comparative abundance because, as we have seen in previous fish reports, the two methods of assessment often present an entirely different picture. However, insofar as biomass contributions are concerned, it can clearly be seen that every species, with the exception of Common Bream and Ruffe, has increased its status to some degree or another. The Common Bream's drop from 36% in 1983 to 8% in 1986 is so dramatic that it might also indicate a bearing upon its status in the comparative abundance stakes. But, as the report itself points out, failure to locate Common Bream may also reflect "the tight shoaling nature of this species and the sampling methods employed".

The survey also included three sampling sites on the Elstow Brook which is described as "... a moderate minor fishery ... Pike, Roach, Dace, Chub and Gudgeon are well represented. . . . It is possible that the brook could be an important area for juvenile fish which then move onto the main river as they become older". In 1983 several fish mortalities occurred in the brook "following the release of decomposing blue green algae from Stewartby Lake". The 1986 survey showed that Pike were the dominant species by weight, accounting for 32% of the mean biomass. In spite of this, they "are not causing a predator/prey imbalance". In order of importance, they are followed by Dace 22%, Roach 19%, Chub 13%, Eel 8%, Gudgeon 4% and Perch 2%. Rudd were found at one of the three sampling sites and contributed less than 1% to the biomass.

Returning to the Great Ouse, again no specimens of Zander or European Catfish were recorded during the survey. In fact, the latter species was not reported at all during 1986, although we did receive two new county tetrad records for Zander at Brogborough Clay Pit, which have possibly migrated there via feeder streams from Stewartby Lake.

The surveys undertaken in 1983 and 1986 both failed to locate Barbel in the downstream section of the Great Ouse, thus indicating that the species is still only to be found in that section of the river upstream of Bedford. However, we did receive two new county tetrad records for Barbel in 1986





**Barbel**  
*Barbus barbus*

which, surprisingly, turned up in Stewartby Lake. How they got there is open to speculation and, in view of the fact that they are very much a species of running water, I thought it prudent to mark them on the distribution map with an open circle indicating some doubt regarding their status. Whilst on this subject, it is worth noting that when the fish distribution maps were published in 1978 (*Bedf. Nat.* 33 44-46) Barbel did not feature as the species was not on the county list at that time. Therefore, a distribution map for this species is included with this report.

21 species were reported in 1986, resulting in a total of 29 new county tetrad records for 17 of them. I am particularly pleased by the fact that the smaller species, such as Bullheads, Sticklebacks and Minnows are comparatively well represented. Furthermore, it is significant to note that 65½% of all the new records were supplied by the following individuals, to whom I must express my sincere thanks:

V.W. Arnold, M. Beauchamp, D.W. Guntrip, Dr T.S. Hollingworth, Mrs E.B. Rands and H. Winter. Also, special thanks to P. Noble of Anglian Water.

#### NEW TETRAD RECORDS FOR 1986

- Pike** *Esox lucius* — 2 tetrads. 15U, 23I.  
**Perch** *Perca fluviatilis* — 1 tetrad. 15U.  
**Roach** *Rutilus rutilus* — 1 tetrad. 15U.  
**Rudd** *Scardinius erythrophthalmus* — 1 tetrad. 15F.  
**Dace** *Leuciscus leuciscus* — recorded, but not in new tetrads.  
**Chub** *Leuciscus cephalus* — 1 tetrad. 15U.  
**Gudgeon** *Gobio gobio* — 2 tetrads. 95Z, 15U.  
**Bleak** *Alburnus alburnus* — 1 tetrad. 15U.  
**Common Bream** *Abramis brama* — 1 tetrad. 15U.  
**Silver Bream** *Blicca bjoerkna* — 1 tetrad. 04U.  
**Tench** *Tinca tinca* — recorded, but not in new tetrads.  
**Barbel** *Barbus barbus* — 2 tetrads. 04AB.  
**Carp** *Cyprinus carpio* — recorded, but not in new tetrads.  
**Zander** *Stizostedion lucioperca* — 2 tetrads. 93UZ.  
**Eel** *Anguilla anguilla* — recorded, but not in new tetrads.  
**Bullhead** *Cottus gobio* — 3 tetrads. 92KQ, 23I.  
**3-Spined Stickleback** *Gasterosteus aculeatus* — 6 tetrads. 91U, 92T, 96M, 04T, 06H, 16K.  
**10-Spined Stickleback** *Pungitius pungitius* — 2 tetrads. 91U, 04T.  
**Minnow** *Phoxinus phoxinus* — 1 tetrad. 95Z.  
**Ruffe** *Gymnocephalus cernua* — 1 tetrad. 15U.  
**Rainbow Trout** *Salmo gairdneri* — 1 tetrad. 04B.

TONY PETERKIN

## SLUGS AND SNAILS

### Report of the Recorder

A great deal of field work has been accomplished during the year and 1986 produced some exciting records for molluscs.

During a specially arranged BNHS field meeting at Waterloo Thorns, nr. Tempsford on 1st June 1986 a very small, sinistral snail, *Vertigo pusilla*, was found by Mrs E.B. Rands and constituted a new Vice County record. It was found in scrub woodland, which has grown up on old pasture, on the bark of a fallen elm tree at the edge of a path. This species is usually associated with old, ivy covered walls and its known range in Britain would not indicate its presence in Bedfordshire.

Equally exciting is the confirmation of the continued existence of *Pyramidula rupestris* in the county. It was thought to have become extinct due to loss of habitat. This small snail requires old limestone walls and these are becoming increasingly rare in Bedfordshire, especially when such a wall falls into disrepair and the stones rapidly disappear into garden rockeries! A small colony was found by D.W. Guntrip at Odell living with a small colony of *Helicigona lapicida*, only the second known colony for this species in the county.

The slug *Limax valentianus* was reported in last year's report as having been found living out of doors at Bickerdike's Nursery, Sandy. This was the first outdoor record for Britain although the slug is frequently found in heated greenhouses in Botanical Gardens and garden centres. Another outdoor site has been found by D.W. Guntrip in the Co-op Garden Centre in Manor Rd., Luton (TL 097209), while another has been found in Suffolk.

The acid loving shrub *Rhododendron ponticum* is not usually thought to be associated with a rich snail fauna. However surprises do occur as leaf litter sieved from under *Rhododendron* bushes in areas such as Woburn Park and the RSPB Lodge at Sandy have proved surprisingly rich. These areas on the Greensand have always proved to be difficult areas in which to find any molluscs. *Helicodiscus singleyanus* has only been recorded from a few sites in Britain and, of those, three are in Bedfordshire, the latest being at The Lodge, Sandy in *Rhododendron* litter!

My thanks to anyone who has given me molluscs during 1986 and especially to D.W. Guntrip for his dedication and to D.G. Rands for his patience in bringing the distribution maps up to date.

E. BERYL RANDS

## GRASSHOPPERS AND CRICKETS (Orthoptera/Saltatoria)

### Report of the Recorder

1986 produced four new tetrad records. Three of these, the Lesser Marsh and Meadow Grasshopper, and the Dark Bush-cricket, were found on a BNHS field meeting to the grounds of Bromham Hospital. The other record was the Slender Ground-hopper from the picnic site at Bromham Mill. This was on the marshy edge adjacent to the River Great Ouse.

All grasshoppers and crickets die in the same year as they are born. They lay their eggs and these hatch out the following year. The eggs of the Dark Bush-cricket are dormant for two winters before they hatch. Is it possible that there are two strains of this cricket, as those eggs laid in 1986 will not hatch until 1988? Those eggs laid in 1987 will not hatch until 1989. It appears these two groups cannot mate as one is still in egg form when the other group has hatched.

The following records are additions this year to the maps published in the Journal for 1977 (*Bedf. Nat.* 32 25-30):

Lesser Marsh Grasshopper *Chorthippus albomarginatus* — SP95V

Meadow Grasshopper *Chorthippus parallelus* — SP95V

Dark Bush-cricket *Pholidoptera griseoaptera* — SP95V

Slender Ground-hopper *Tetrix subulata* — TL05A

D.G. RANDS

## DRAGONFLIES (Odonata)

### Report of the Recorder

The National Dragonfly Recording Scheme plans to produce a National Atlas of the distribution of British Dragonflies late in 1988. This will show the 10km squares in the British Isles for which each species has been recorded. Bedfordshire is now reasonably well covered, although two or three new 10km square records are still coming in each year. Some of these are from newly dug garden ponds which may attract species that have not been previously seen in the area. Others are from sites intensively studied for the first time, like Priory Country Park which is proving surprisingly rich.

Three new books on dragonfly identification have been published recently, and Hammond's invented English names for dragonflies appear to have become accepted after a period of confusion. I hope that these two facts will allow more BNHS members to get to grips with these beautiful insects. The British Dragonfly Society is talking of producing a 'Starter Information Pack' to encourage beginners. It is well worth joining the Society if you have an interest in this group. It issues two journals a year, newsletters and information on the mapping scheme as well as arranging field and indoor meetings. The society's treasurer is Richard Gabb, 72 Chester Road, Poynton, Cheshire SK12 1HA. The subscription is not excessive — in 1986 it was £4.

Surprisingly, some of the less common dragonfly species in Bedfordshire seem to be increasing their range. Felmersham Gravel Pits Nature Reserve can be taken as an example. Its dragonfly fauna was very thoroughly examined in the 1960s when Bernard West was the reserve manager. Yet in 1986 two new species appeared in the reserve, *Pyrrhosoma nymphula* (Large Red Damselfly) and *Sympetrum sanguineum* (Ruddy Darter), seemingly for the first time. Another local species, *Erythromma najas* (Red-eyed Damselfly), was one of the commonest species on the Upper Ouse in June 1986. In previous years only a few have been recorded. *Anax imperator* (Emperor Dragonfly) and *Libellula depressa* (Broad-bodied Chaser) also seem to be doing well and are always worth looking out for in ponds in the early summer.

### NEW 10km SQUARE RECORDS

In the Journal for 1984 (*Bedf. Nat.* 39 44-45) I summarised the known distribution of 17 dragonfly species in Bedfordshire, disregarding the eight 10km squares that only have a small area in the county, i.e. SP91, TL11, 12, 16, 23 and 25. Since then six new 10km square records have been submitted.

*Coenagrion puella* Azure Damselfly TL02  
*Erythromma najas* Red-eyed Damselfly TL04  
*Libellula depressa* Broad-bodied Chaser TL02, 14, 24  
*Libellula quadrimaculata* Four-spotted Chaser TL02  
*Sympetrum sanguineum* Ruddy Darter SP93, TL14

### ACKNOWLEDGEMENTS

As in past years, many of the most exciting records in 1985 and 1986 came from other people. May I take this opportunity of thanking the following:

Roger Bradshaw, Angela Bucknall, Stephen Cham, John Comont, Graham Dennis, Bernard Nau, Gary Pilkington, Barry Squires, Tom Thomas, Paul Trodd and Ian Woivod.

NANCY DAWSON

## SPIDERS (Araneae) Report of the Recorder

During 1986 nine species were added to the county list. Most of these new records came from the pitfall-trapping experiments being carried out in various selected Nature Reserves in Bedfordshire.

*Philodromus praedatus*, until recently believed to be a rare species, was beaten from oaks with another uncommon crab-spider, *P. rufus*. As this habitat preference has been recognised only recently the 'rarity' status of the former species may be in error. To check this, collecting from a range of suitable sites, i.e. Flitwick Moor, Cooper's Hill (Amphill), Kings Wood (Houghton Conquest), showed the presence of *P. praedatus*. Interestingly, no males have been captured yet in this county.

The capture of *Centromerus incultus* and its subsequent destruction was reported in 1985. This identification was probably incorrect as further specimens proved to be *Syedra gracilis*, another new record. Thus *C. incultus* is removed from the list.

The number of spiders for Bedfordshire now stands at 314 species, 303 by capture and 11 noted from the literature.

### ADDITIONS TO THE COUNTY LIST

Family: Gnaphosidae

*Zelotes apricorum* (L. Koch)

Family: Thomisidae

*Oxyptila simplex* (O.P.-Cambridge)

*Philodromus praedatus* (O.P.-Cambridge)

Family: Lycosidae

*Alopecosa cuneata* (Clerck)

Family: Linyphiidae

*Mioxena blanda* (Simon)

*Tapinocyba praecox* (O.P.-Cambridge)

*Syedra gracilis* (Menge)

*Centromerus incilium* (L. Koch)

*Allomengea warburtoni* (O.P.-Cambridge)

T. J. THOMAS

## LACEWING FLIES (Neuroptera) Report of the Recorder

A further species may be added to the county list thanks once again to the sharp eye of Beryl Rands. She discovered *Sympherobius elegans* (Stephens) in Gt. Hayes Wood (SP965618) on 28th June 1986. Killington describes it as very uncommon and local and Fraser as local and rare but Peter Barnard who corrected my determination of the insect confirmed that this species now seems commoner or else was previously overlooked. Three of the four British species of this genus are now recorded for the county. *Chrysopa perla* (L.) was found in the same locality.

B. VERDCOURT

## BUGS (Hemiptera-Heteroptera)

### Report of the Recorder

The year 1986 produced a number of interesting records, including one addition to the county list and several confirmations of species not seen in the county for a number of years. Several of the latter resulted from one day in the field with Dr Peter Kirby and Sarah Lambert from NCC at Peterborough, at sites on the Greensand on 20th September.

Several interesting records relate to shield-bugs. *Dolycoris baccarum* was new to the county having been found at two sites in Heath and Reach this year. It is a numerous species in, for example, the East Anglian Brecklands but is unaccountably scarce in Bedfordshire. The first record was an individual on a roadside verge at Fox Corner, noticed by Rosemary Brind near to where I had parked my car. A species not seen for more than twenty years, *Rhacognathus punctatus*, was found by Sarah Lambert at Cooper's Hill (Amphthill) on 20th September, several were seen on its usual host-plant, Heather. A number of *Picromerus bidens* were also seen on Heather in the same place, this species being more usually seen in marshy places in the county although I have found one on downland at Sharpenhoe.

The arboreal shield-bug *Troilus luridus* has only once been recorded in the county, a second record was of a nymph found at Sewell on 14th September this year. This was one of several notable records within the space of a few minutes in a small area between the disused railway and a reclaimed chalk quarry to the south. These included the first county record for decades of a close relative of the lace-bugs, *Piesma maculatum*, which was present in good numbers; a nymph of *Orthops basalis* which I bred to maturity, a species only added to the county list in the last report; numbers of *Lycocoris campestris* under lying hay; and a Musk Beetle reported more fully elsewhere. *L. campestris* was also found on 20th September adjacent to Maulden Wood, in the heathy hollow southwest of the Lodge. Here too were found *Plinthinus brevipennis* and *Acalypta parvula* and, on 5th July, *Acetropis gimmerthali*, all infrequently recorded from the county.

A more deliberate search was made for the Juniper shield-bug *Elasmostethus* (= *Cyphostethus*) *tristriatus*, and was rewarded at two sites out of three: Maulden Wood (5th July) and Bedford Cemetery (6th July), but not at North Crawley a few days later. This bug has only been twice recorded previously in the county but on hearing that it is common in Surrey on various species of trees of the Cypress family, on unripe cones, I thought it worth a specific search. Bedford Cemetery also yielded the first Elm leaf-roll gall bugs for many years, there were several nymphs on Wych Elm on 6th July, which I bred to maturity. Other Anthocorid records include *A. butleri* on Box in my Toddington garden (16th August) and *A. limbatus* at Harrold-Odell Country Park on Osier, as usual (23rd August). At the latter site on the same date the 'sand dune' species *Monosynamma sabulicola* was still present in good numbers, on coppice stools of *Salix alba*.

Two heathland bugs not recorded in the county for a decade or more were found on 20th September: *Coranus subapterus* on Cooper's Hill where I had seen it ten years ago, and *Alydus calcaratus* at the remarkably prolific Fox Corner site mentioned above in connection with *Dolycoris*.

Finally, the sub-aquatic *Aphelocheirus aestivalis* was common among stones on the river-bed of the Ouse at Stafford Bridge (Oakley) on 13th July, all stages of immatures were present as well as adults. More surprising was an adult netted by Beryl Rands in the Ouse at Bedford, near the east end of Long Holm (30th August), this site does not have the fast-flowing well-aerated water usually demanded by this bug.

#### ADDITION TO THE BEDFORDSHIRE LIST

##### Pentatomidae

*Dolycoris baccarum* (L.) — a single adult on Centaury on the roadside verge at Fox Corner (Heath and Reach) on 24th August 1986 and another on Heather at Shire Oak Heath (Heath and Reach) on 20th September.

B.S. NAU

## BUTTERFLIES (Lepidoptera)

### Report of the Recorder

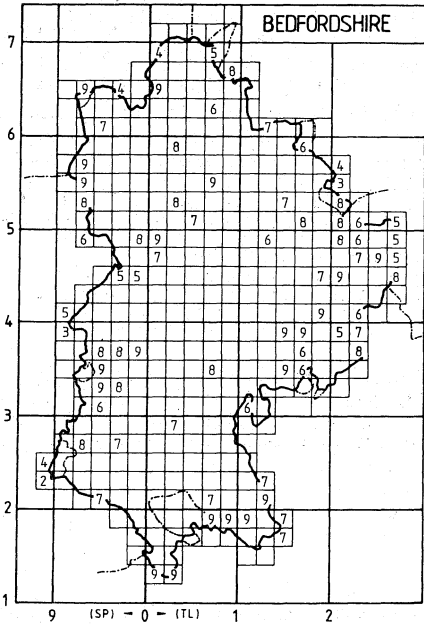
Yet again it is necessary for me to complain that the year 1986 was a poor year for butterflies. Yet again the weather was the primary cause of that poverty and yet again this is not only my opinion but that of the 30 or so other persons who kindly contributed to the sightings of butterflies to a greater or lesser extent.

This is now the third poor year in a row and it is a wonder that any species survive at all. Breeding cycles are disturbed by rain and dull cold days, as insects need warmth and the brightness of the sun before they will fly to meet up and mate.

Many people state that the number of Brimstones were down on previous years, and I only saw two individuals myself in the early months when many more would be expected. Orange Tips were very late and were lower in numbers than is usual. These showy insects are usually very commonly seen, but most contributors agree with the low numbers, and John Payne even suggests that the season was up to four weeks late.

The Dark Green Fritillary was once more recorded from the Barton Hills, mainly Noon Hill and up to eight individuals were seen in one day by Stephen Halton. This is a confirmation of the records sent in last year by him. This year he was lucky enough to get within a metre of one insect which is no mean feat with these butterflies as they are very nervous indeed.

Very detailed reports came in from Ian Woivod and Gary Pilkington. Ian sent in the results of a ten year study he has made on Potton Wood as part of a much longer experiment conducted by Monks Wood Experimental Station. There he has made regular walks over the last ten years recording the numbers and species of all butterflies encountered. Gary, who is the Warden of the



RSPB Reserve at Sandy Lodge, has done the same thing as part of his daily work at The Lodge. This type of survey is known as a transect survey, and the observer keeps to the same route and the same time of day as far as is practical.

Studying these results shows that the Holly Blue seems to have had a successful season as did many other of the common species; but the Wall Brown sightings are well down for both of their broods. These findings are confirmed by reports from other parts of the county.

Checking up on the recently discovered Black Hairstreak colony in the middle of the county we were rewarded with the good news that it is still doing well; and then in August the news broke that the White Admiral was seen again on Flitwick Moor. John Jarvis 'phoned to say that he had seen it there in the early part of the month and this was later confirmed by two other people. I cannot remember when this species was last seen there but it is at least forty years ago. That is what makes this survey so exciting. There is always the chance that something good will turn up again after many years of absence and indeed during the last three years; the Black Hairstreak has returned; the Dark Green Fritillary has appeared in a new site and now the White Admiral is back in one of its old haunts.

I wonder what special surprises 1987 will bring, but above all I hope it is accompanied by good weather.

Over the latest period of the survey, effort has been concentrated in the areas of the county which were obviously under recorded; these being shown in the map published last year (*Bedf. Nat.* 40 58). Vic Arnold and his associates Harvey Winter and Len Field have been trying to fill in some of the blank spaces, and with some success, or at least as much as the poor summer would allow. Vic had also been chasing up records from people who had never contributed to the survey before and some useful data has emerged; especially in the generally under recorded north. As a result this year's map, Figure 1, looks better but a new system needs to be devised to show the status more clearly. Unfortunately this needs to be in colour otherwise it would be too confusing to be of any use, so it cannot be published here. However, this year a second map is given, Figure 2, which shows the tetrads with more than 20 species recorded.

#### ACKNOWLEDGEMENTS

Once again it is my pleasant duty to thank my faithful army of helpers, for without them the task would be impossible.

M. Allen, D. Anderson, V. Arnold, J. Barnwell, Mr and Mrs Brownskill, C. Burton, G. Castle, B. Clutton, L. Fields, S. Halton, P. and G. Hooper, M. Izzard, J. Howe, J. Jarvis, H. Jones, J. Knowles, D. Manning, A. Outen, M. Palmer, D. Parsons, R. Passley, J. Payne, G. Pilkington, G. Ping, S. Pittman, M. Rowler, P. Sefick, A. Smith, D. Smith, B. Stephenson, P. Trodd, H. Winter, I. Woiwod.

ALAN MARTIN

### MICRO-MOTHS (Lepidoptera) Report of the Recorder

My report records the addition of seventeen species to the county list during the year. Several are notable either for their scarcity or for being recorded outside their previously known geographical range. Appropriate authorities have kindly confirmed the identity of specimens prior to me accepting them as additions to the list.

The species added are:

#### Nepticulidae

*Ectoedemia turbidella*— this rare species, which feeds on Grey Poplar, is known from only a dozen or so sites in Britain. Tenanted leaf-mines were found at Stotfold in October.

**Opostegidae**

*Opostega crepusculella* — netted at the damp woodland ride in West Wood, Knotting (27th July).

**Gracillariidae**

*Caloptilia alchimiella* — caught at Carlton (2nd June 1984).

**Coleophoridae**

*Coleophora limosipennella* — larval cases on Elm at Putnoe Wood (July).

*C. solitariella* — larval case on Greater Stitchwort at Worley's Wood, Melchbourne (June).

**Gelechiidae**

*Metzneria aprilella* — recently added to the British list and recorded in counties near the south coast. One specimen from a light-trap at Cockayne Hatley (1st July).

*Teleiodes sequax* — a specimen in the collection at Rothamsted Experimental Station is labelled "Whipsnade, vii 1924, J.C.F. Fryer".

*Gelechia rhombella* — at light, Sharnbrook (27th July).

**Cochylidae**

*Cochylis atricapitana* — netted at Thurleigh road cutting (28th June).

**Tortricinae**

*Eana incanana* — in light-trap at Cockayne Hatley (13th July).

**Olethreutinae**

*Apotomis lineana* — caught at Carlton (14th July 1985).

*Epinotia subocellana* — netted at Worley's Wood, Melchbourne (22nd June).

*Cydia internana* — caught at Carlton (1983).

*Cydia pactolana* — until recently, known in Britain only from Hampshire. On the continent the larvae feed on Spruce and Larch, and the species is periodically a pest of young Spruce. I netted one female moth at Worley's Wood, Melchbourne (22nd June).

**Pyralidae**

*Sceliodes laisalis* — this species was first recorded in Britain in 1973, associated with imported tomatoes. One of two other recorded localities was Luton, by K. Webb (30th July 1983).

*Oncocera palumbella* — I have recently identified a specimen with no data label amongst moths caught in the county during 1964/65.

*Phycitodes saxicola* — in light-trap at Houghton Regis (17th August 1985).

**REFERENCES**

- BRADLEY J.D. and FLETCHER D.S. 1979 *A recorder's log book or label list of British butterflies and moths*
- BRADLEY J.D., TREMEWAN W.G. and SMITH A. *British tortricoid moths*  
Vol. 1 1973 Cochylidae and Tortricidae: Tortricinae  
Vol. 2 1979 Tortricidae: Olethreutinae
- GOATER B. 1986 *British pyralid moths*
- HEATH J. 1979 *The moths and butterflies of Great Britain and Ireland* (abbreviated MBGBI) Vol. 1
- HEATH J. and EMMET A.M. 1985 MBGBI Vol. 2
- MEYRICK E. 1928 *A revised handbook of British lepidoptera*

**ACKNOWLEDGEMENTS**

I would like to thank the following for their contributions to my records for the year:

V.W. Arnold, Mr and Mrs E.G. Bowskill, T.S. Hollingworth, A.R. Outen, R. Passley, G. Ping, A. Riley and I. Woiod.

DAVID MANNING



## MACRO-MOTHS (Lepidoptera)

### Report of the Recorder

The dismal weather during 1986 was, once again, a considerable handicap to constructive fieldwork within the county. Nevertheless, with the help of a number of people, some rewarding results were obtained from a variety of sites throughout Bedfordshire. This can be illustrated by comparing the map for species recorded on a 10km basis with those in previous editions of the Journal (e.g. *Bedf. Nat.* 40 55).

Moth trapping took place at most of the traditional sites in the county, but, thanks to Jonathan Howe, permission was obtained to run moth traps at The Camps, Bushmead Priory; White Wood, Everton; and Waterloo Thorns, Tempsford. This latter site also provided sightings of Glow Worms *Lampyris noctiluca* on 4th July.

During the year, I was given the opportunity to examine the extensive moth collection belonging to Glenn Ping from Carlton. This produced a number of interesting records, including a specimen of 2254 Grey Chi, taken from Folly Caravan Park, Clapham in 1979. This is the first record for this species since the *Victoria History of the County of Bedford* was published in 1904.

All too often in recorders' reports, species that are common and well distributed tend to get ignored. As a result of selective fieldwork over the last few years it has now become possible to provide a list of moths, shown below, that have now been recorded from all of the 10km squares in the county. It is hoped that each year from now on the report will include further moth species to add to this list.

In July 1986, I was asked if I could help obtain some caterpillars and moths for a Television programme being made by Channel 4, entitled *Nature in Focus*. An episode was filmed at Whipsnade, the subject of which was "Moths", and several interesting nights were spent watching the filming process.

BEDFORDSHIRE			
7	85	194	72
6	352	345	175
5	336	228	400
4	313	407	262
3	380	328	204
2	147	288	217
1			
	9	(SPI) - 0 - (TL)	1 2

Number of species recorded in each 10km square — as at 31.12.86.

1634	The Lackey	2107	Large Yellow Underwing
1640	The Drinker	2128	Double Square Spot
1713	Riband Wave	2199	Common Wainscot
1738	Common Carpet	2284	Grey Dagger
1758	Barred Straw	2306	Angle Shades
1860	Green Pug	2321	Dark Arches
1906	Brimstone Moth	2333	Large Nutmeg
1961	Light Emerald	2337	Marbled Minor
2030	Yellow-tail	2387	Mottled Rustic
2050	Common Footman	2441	Silver Y
2089	Heart and Dart	2477	The Snout

*Species recorded in all 10km squares in Bedfordshire*

## SPECIES LIST

The following list contains comments on species of particular interest. All numbers and English names as per *A Recorder's Log Book or Label List of British Butterflies and Moths* by J.D. Bradley and D.S. Fletcher.

- 162 **Goat Moth** The larvae of this rare local moth was photographed at Cople Pits Nature Reserve, in 1983, by Mrs B. Bowskill. This is a new site for this species.
- 169 **Six Spot Burnet** A specimen of the yellow form, f. *flava* Robson, was found in Glenn Ping's collection from Marston Thrift, dated 1980. This form was also reported from Flitwick Moor, during 1986, but awaits verification.
- 1642 **The Lappet** Several larvae of this species were found at Waterloo Thorns, Tempsford on 1st June 1986. An uncommon, but widely distributed insect in the county.
- 1645 **Scalloped Hook-tip** An uncommon moth, found throughout the county in areas where its food plant, birch, occurs.
- 1646 **Oak Hook-tip** The commonest of our 'hook-tips', found all over the county.
- 1676 **The Mocha** This moth has not been recorded in the county since 1976, when it was found at Flitwick Moor. It should still be with us in areas where its food plant, Field Maple, occurs.
- 1755 **The Chevron** This species was found at two new locations during 1986. At Studham, by C. Baker and at Coppice Wood, Melchbourne, by L. Field and H. Winter.
- 1759 **Small Phoenix** A common Bedfordshire moth found in a variety of habitats.
- 1784 **Pretty Chalk Carpet** This attractive moth came to light in good numbers on 15th July 1986, on Pegsdon Hills.
- 1789 **Scallop Shell** Taken by D. V. Manning at Worleys Wood, Melchbourne, on 22nd June 1986. First county record since 1951.
- 1839 **Bordered Pug** A common moth found throughout the county.
- 1858 **The V-Pug** Common, found throughout the county.
- 1887 **Clouded Border** An attractive moth that comes readily to light and found throughout the county.
- 1930 **Oak Beauty** At light on 26th April, Coppice Wood, Melchbourne. This attractive moth can be found in wooded areas during March and April.
- 1948 **Small Engrailed** This species is on the wing in May and June, normally in wooded areas and never very common.
- 1955 **Common White Wave** Common throughout the county.
- 1979 **Lime Hawk-moth** Widely distributed in the county, its larvae can be found on English Elm, Lime, Alder and Birch.
- 1980 **Eyed Hawk-moth** This species appears to be fairly scarce in the county. More records would be welcomed for this attractive moth.
- 1984 **Humming-bird Hawk-moth** Although the weather of 1986 was not very good, this migratory moth was recorded from many sites in the county.
- 1995 **Puss Moth** Recorded from the county in most years, but not considered to be common.
- 2003 **Pebble Prominent** Found throughout the county and considered to be fairly common.
- 2006 **Lesser Swallow Prominent** Found in a variety of habitats all over the county, but never recorded in large numbers.
- 2007 **Swallow Prominent** The same remarks apply to this moth.
- 2069 **The Cinnabar** A common moth, widely distributed over the county. The yellow and black caterpillars are a familiar sight on Common Ragwort.
- 2110 **Broad-bordered Yellow Underwing** Although this moth appears to be uncommon throughout the county, a good number came to light at the late date of 29th September 1986, in Maulden Woods.
- 2119 **Pearly Underwing** This migratory species was recorded by J.B. Barnwell, at light, at Aspley Guise. Never a very common moth.
- 2136 **The Gothic** An uncommon Bedfordshire moth, recorded by L. Field from Kingsdown Avenue, Luton; and Mrs B. Bowskill from Stotfold.

- 2173 **The Lychnis** A widely distributed moth which comes readily to light, but normally only in small numbers.
- 2176 **The Antler** At light, 21st July 1986, Pegsdon Hills. An uncommon Bedfordshire moth.
- 2186 **Powdered Quaker** This species can be found throughout the county during April and May, when it comes readily to light.
- 2205 **Shoulder-striped Wainscot** 1986 was a good year for this uncommon Bedfordshire moth, with records from sites such as Bushmead Priory; Bison Hill, Whipsnade and Coppice Wood, Melchbourne.
- 2240 **Blair's Shoulder-knot** Recorded again from its original site at Clifton by A.R. Outen and also from Aspley Guise, by J.B. Barnwell.
- 2280 **The Miller** An uncommon Bedfordshire moth, that was found at a number of sites during 1986, including L. Field's garden in Kingsdown Avenue, Luton.
- 2301 **Bird's Wing** This species was taken at light, by the recorder, at Stockgrove Park, Heath and Reach, on 11th July 1986. Also recorded by J.B. Barnwell from Aspley Guise. This moth is not common in the county.
- 2305 **Small Angle Shades** A common moth that can be found throughout the county.
- 2319 **Lunar-spotted Pinion** Both 1985 and 1986 were good years for this moth, it can be found in a variety of sites throughout the county.
- 2421 **Scarce Silver-lines** Recorded from Bushmead Priory on 12th July 1986, by the recorder, and also from Aspley Guise by J.B. Barnwell. Never a common insect.
- 2466 **The Blackneck** This moth was very abundant at Waterloo Thorns, Tempsford on 4th July 1986. Also recorded from Marston Thrift by R. Passley and from Sharnbrook, by D.V. Manning.

#### ACKNOWLEDGEMENTS

My sincere thanks go to the following for help and assistance:

C. Baker, J.B. Barnwell, Mr and Mrs E.G. Bowskill, G. Castle, R. Collings, L. Field, G. Higgs, J. Howe, T.S. Hollingworth, B.M. Inns, Hon. H. de B. Lawson Johnston, D.V. Manning, A.J. Martin, B.J. Nightingale, A.R. Outen, D. Parsons, R. Passley, G. Ping, R.C. Revels, A. Riley, B.R. Squires, R.B. Stephenson, H. Winter, I. Woiwod.

#### ADDENDA

- 2385 **Small Mottled Willow** Recorded in error (*Bedf. Nat.* (1969) 23 9)
- 2449 **Dark Spectacle** Recorded in error, by I. Woiwod, from St Neots Road, Sandy. (*Bedf. Nat.* (1986) 40 57)

V.W. ARNOLD

## CHECKLIST OF BEDFORDSHIRE COLEOPTERA

### (5)ADDENDUM

By B.S. Nau

With the additions (and single deletion) listed below, the Bedfordshire list of Coleoptera now stands at 1299 species. This is just about one third of the British total so it is likely that several hundred species still remain to be discovered in the county.

The following are mainly additional species from the author's unpublished records, details of localities are given for these; attributions are indicated by abbreviations as detailed in previous parts. No attempt is made to detail additional records of previously listed species which have come to light since the main list was prepared.

DYTISCIDAE		
<i>Hydaticus seminiger</i> (Degeer)	N	— peat pool, Flitwick Moor, April 1983.
PSELAPHIDAE		
<i>Bryaxis bulbifer</i> (Reichenbach)	N	— Dropshort Marsh (Toddington), May 1985.
ELMIDAE		
<i>Elmis volckmari</i> (Panzer)	N	— Barton Springs, March 1985.
ANTHICIDAE		
<i>Anthicus tobias</i> Marseul	J	
ELATERIDAE		
<i>(Agriontes sordidus</i> (Illiger)	B	— deleted: considered improbable in light of known distribution (H. Mendel).)
CURCULIONIDAE		
<i>Thryogenes nereis</i> (Paykull)	N	— Dropshort Marsh (Toddington), October 1985.
SCOLYTIDAE		
<i>Scolytus intricatus</i> (Ratzeburg)	V77	

### CORRIGENDA

1. In Part 1: delete Bibliography item number (3), Brown . . .
2. In Part 3: add 'JN . . . J. Niles' to list of abbreviations.
3. In Part 4: for 'Br . . . Brown' read 'B . . . Bedford School'; in checklist: for 'Br' read 'B', and for 'V82' read 'V52'.

### ADDITIONS TO THE BIBLIOGRAPHY, AND OTHER SOURCES

- AIRY SHAW, H.K. 1945 "*Pria dulcamara* Scop. (Col. Nitidulidae) on *Verbascum*"  
*Ent. mon. Mag.* 81 54.
- ANON 1960 Bedford School NHS report for 1960 *Bedf. Nat.* 15 36-37.
- ANON 1963 Bedford School NHS report for 1962 *Bedf. Nat.* 17 36-37.
- ANON 1963 Beds and Hunts Naturalist's Trust: Felmersham Gravel Pits *Bedf. Nat.* 17 35.
- BRIND, R. (unpubl.) Chrysomelidae collection, Bedford Museum.
- JANES, N.F. (unpubl.) Card index of Staphylinidae records.
- NAU, B.S. (unpubl.) Personal records of Bedfordshire Coleoptera.
- RANDS, E.B. 1986 *Platyrhinus resinosus* (Scop.) (Col. Anthribidae) new to Bedfordshire.  
*Ent. mon. Mag.* 122 90.
- VERDCOURT, B. 1944 A Canadian longhorn beetle in Beds. *Ent. mon. Mag.* 80 87.
- VERDCOURT, B. 1950 Abundance of *Apthona euphorbiae* Schrank (Col., Chrysomelidae).  
*Ent. mon. Mag.* 86 256.
- VERDCOURT, B. 1977 A visit to Aspley heath. *BNHS Newsletter* No.28 for September 1977 (actually No.29), page 1.

Address: 15 Park Hill, Toddington, Dunstable, Beds LU5 6AW

## THE MUSK BEETLE *AROMIA MOSCHATA* (L.) IN BEDFORDSHIRE

By R.A. Brind

The Musk Beetle is a distinctive metallic green or blue longhorn beetle whose wood boring larva develops inside willows. Since 1944 there have been no published records for Bedfordshire and nationally too there has been a dearth of records until the last 7 or 8 years, since when increasing sightings have been reported. New records for the county are now also being made.

On 14th September 1986, in an area to the west of Sewell Cutting (SP9822), Dr B.S. Nau and I found a green Musk Beetle, about 30mm long. It was a female, having antennae shorter than its body, and was resting on a Hazel leaf. Since then it has been reported that a group of about 12 was seen in 1985 and August 1986 in Priory Country Park, Bedford by the wardens G. Dennis and P. Knight. The beetles were feeding on Wild Angelica and Purple-loosestrife. G. Dennis also reports seeing an adult in Clapham Park Wood about four years ago.

Previous records are few. The beetle was recorded by Fowler in the Victoria County History but without reference to locality. R. Palmer (in Hine) comments "I have found this magnificent beetle at the Radwell osier bed . . . but only on rare occasions". B. Verdcourt noted it to be "fairly common along the banks of the R. Ouse" and "found on willow branches. Bedford. 31.7.1942". C. MacKechnie Jarvis found it in July 1944 in "some numbers on osiers . . . at Pavenham".

### REFERENCES

- FOWLER, W. W. 1904 Insects: Coleoptera. *Victoria History of the County of Bedford*. Vol. 1 p.77.  
HINE, R.L. (Ed.) 1934 *The Natural History of the Hinchin Region* p.147.  
JARVIS, C MacK. 1944 *Aromia moschata* L. (Col., Cerambycidae) in Bedfordshire. *Ent. mon. Mag.* 80 212.  
VERDCOURT, B. 1945 *Aromia moschata* L. (Col.) in Bedfordshire. *Ent. mon. Mag.* 81 50.  
VERDCOURT, B. 1952 Further records of Bedfordshire Coleoptera. *Ent. mon. Mag.* 88 78.

Address: 46 Mallard Hill, Bedford MK41 7QS



*The Musk Beetle Aromia moschata, Sewell 14.7.86.*

(Photo: Rosemary Brind)

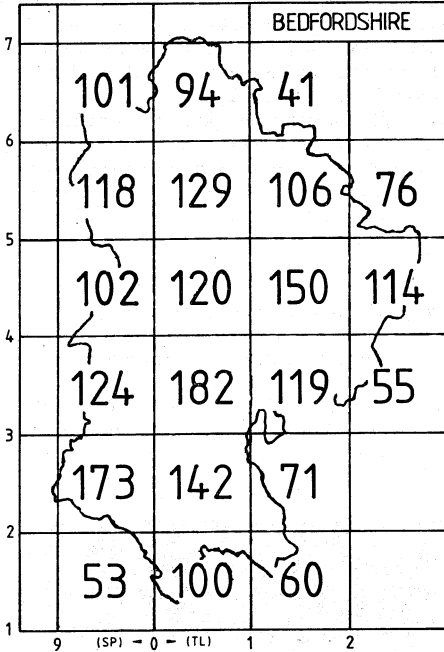
## MOSSES AND LIVERWORTS (Bryophyta)

### Report of the Recorder

Bryological fieldwork in Bedfordshire is most practicable in the wetter and cooler months of the year since in summer mosses and liverworts tend to dehydrate and shrivel such that field identification becomes extremely difficult. Normally in a year I expect to cease fieldwork on this group at about the end of April and resume again after the end of the main fungus season, some time in November. However in 1986 the cold, inclement weather with long lying snow prevented fieldwork in the early part of the year. (It does not need a great depth of snow to cover such small plants.)

When the snow thawed, drought was a problem and was exacerbated by drying east winds. Fieldwork last year did not therefore commence until the end of April and the total amount that could be achieved was somewhat limited. Towards the end of the year, domestic and professional duties unfortunately restricted field excursions.

No new additions to the county list were made but the present 10km square totals are shown in the map. Among the more important records were the following:



Number of species recorded in each 10km square — as at 31.12.86.

- Dicranella cerviculata* — Sutton Fen (2nd recent site)
- Ptilidium pulcherrimum* — Marston Thrift (2nd recent site)
- Rhynchostegium megapolitanum* — Road verge, Heath and Reach (2nd recent site)
- Climacium dendroides* — Waterloo Thorns (3rd recent site)
- Chiloscyphus pallescens* — Marston Thrift (3rd recent site)

My thanks to the following for supplying specimens or records: Mr and Mrs G. Hooper, Mr V. Arnold and members of his Luton WEA class, and especially to Mr M. Yeo.

ALAN R. OUTEN

## FLOWERING PLANTS, FERNS AND FERN ALLIES (Spermatophyta and Pteridophyta)

### Report of the Recorder

1986 was another rewarding year for plant recording in the county, due not so much to the observations made by my wife and me but to the many reports we received from members of the Society and others of unusual plants they found during the year. These included a small colony of Heath Spotted-orchid *Dactylorhiza maculata* subsp. *ericetorum* found by Mr and Mrs Jarvis in a more or less secluded area in the middle of the county and not far from the site where plants were last seen in Bedfordshire 25 years ago. Heath Dog-violet *Viola canina* had been feared to be reduced to only one site in the county until this year when Mr J.O. Howe reported another site about 30km away on the far side of the county. Our member Dave Parsons sent me a colour slide of the parasitic Toothwort *Lathraea squamaria* taken in Chicksands Wood. It is about a hundred years since this species was last reported from the middle of the county although still present in a few places south of Luton. Nancy Dawson drew my attention to an abundance of Greater Duckweed *Lemna polyrhiza* in an old moat at Ickwell Green. I had feared that this might have become extinct in the county. The sites of these interesting records have some association with the Greensand which apparently demands our continued attention.

The continued urban development in the south of the county is being accompanied by a rise in the water table of low-lying areas. Common Meadow-rue *Thalictrum flavum* is now evident once more by the riverside at Limbury, having been dormant there for over 50 years.

Our most important contribution was the finding of a hybrid grass, the two parents of which — Orange Foxtail *Alopecurus aequalis* and Marsh Foxtail *A. geniculatus* — are not strikingly different from each other. This was only the second time that the hybrid had been recorded in the British Isles and it may be of some interest that it was found in yet another Greensand site, the Tiddenfoot Waterside Park.

Although little wool shoddy is now used in the county and our refuse disposal methods are much cleaner, some plants of alien origin still arrive. These have included *Eragrostis planiculmis* (Gramineae) collected at Flitwick in 1985 and grown on in our garden; *Cotoneaster bullatus* (Rosaceae) growing on waste ground at Houghton Regis; *Sorbaria arborea* (Rosaceae) on a roadside verge at Milton Bryan and *Cyperus congestus* (Cyperaceae), a wool alien reported by C.G. Hanson on one of his regular visits to the county.

As this is my last report it seemed appropriate to ease the task of my successor by publishing the updated plant records of the county. There are a few copies of this — Further Notes on the flora of Bedfordshire *Watsonia* 16 163-179 (1986) — available to members on request.

JOHN G. DONY

## FURTHER NOTES ON *Puccinellia distans* (REFLEXED SALTMARSH-GRASS) IN BEDFORDSHIRE

By Christina M. Dony

An earlier account (Dony, C.M., 1979) of the occurrence in Bedfordshire of *Puccinellia distans* (Reflexed Saltmarsh-grass), a maritime grass common in salt marshes around the southern and eastern coasts of England, made the assumption that the grass was only to be found on the verges of the A1 trunk road for the whole of its length in the county, covering 12 tetrads (2km x 2km squares) (Figure 1). Its presence was thought to be due to the heavy salting of this particular road in the winters since 1950. There was one other outlying record in 1973 at Thurleigh from waste ground where road material had been dumped. Two years later (Dony, J.G., 1981) reported that further investigations had revealed the grass to be widespread on the verges of other main and trunk roads

Address: 9 Stanton Road, Luton LU4 0BH

in the county, increasing the number of tetrad records to 42. Additional records continued to be made in 1982-1984, bringing the total number of tetrads to 66. It would appear that this probably covers the main distribution of the grass in the county, as only one additional record was made in 1985 and a further one in 1986. The present tetrad distribution is shown in Figure 2.

The first sighting of the grass on verges other than the A1 was the discovery in 1980 of a stretch of the A6 near Bletsoe where *P. distans* was the dominant species. This prompted the investigation of all the trunk roads in Bedfordshire which were salted in winter. The grass was found on all the main roads radiating from Bedford, with heaviest concentrations on the A428(T) St. Neots - Northampton road, the A6(T) north and south of Bedford and the A421 around Brogborough where the grass now forms a dense sward on many disturbed stretches of the verges in the zone affected by the application of salt.

When the Elstow by-pass was opened in 1982 *P. distans* was absent, though it did occur in some quantity on the A6 south of Elstow. A few plants colonised the by-pass in 1984 and by 1986 the coverage had increased considerably.

There is not much doubt that the grass is common on the verges of the M1 but, owing to the difficulty of recording there, it has so far only been located in two tetrads — near Tingrith and at Luton. Although the whole length of the A5 London - Holyhead road in the county has been searched, no trace of the grass has been found, nor are there any records south of the A5. There would appear to be no obvious explanation for this disjunct distribution.

REFERENCES

DONY, C.M. *Puccinellia distans* (Reflexed Saltmarsh-grass) in Bedfordshire. *Bedf. Nat.* 33 68-69  
 DONY, J.G. Flowering plants, ferns and fern allies. Report of the Recorder. *Bedf. Nat.* 35 55

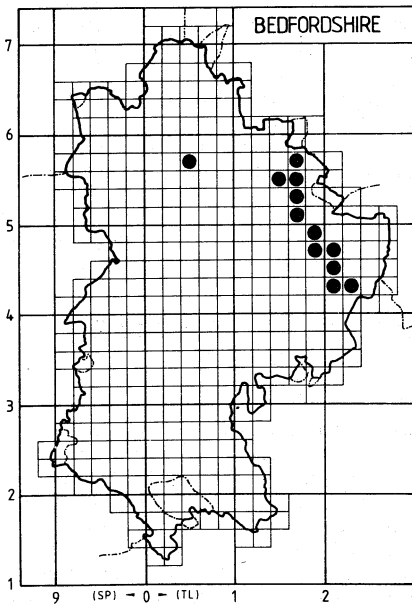


Fig.1 Distribution of *P. distans* to 31.12.78.

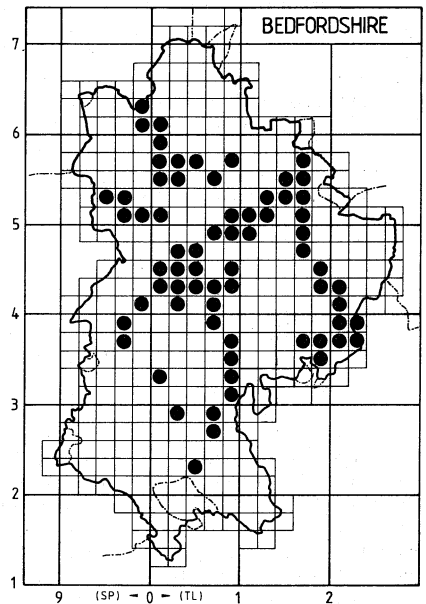


Fig.2 Distribution of *P. distans* to 31.12.86.



## LICHENS

### Report of the Recorder

Walls provide an important habitat for lichens. The distribution of species on walls is affected by the wall structure and composition, for example, inclination, aspect, age, and porosity, as well as the surrounding microclimate.

Lichen thalli are able to withstand repeated wetting and drying, and a "dry" lichen, although it has little physiological activity, is able to survive long periods of desiccation. This tolerance to desiccation allows lichens to colonise and grow in dry habitats especially rock faces, roofs and walls. In such habitats the total time spent by the lichen in the hydrated state may be of importance in determining species distribution, as for example, on north- and south-facing aspects.

The effects of exposure can be seen by a comparison between equal areas of mortared calcareous walls on opposite sides of a lane in Silsoe. The south-facing side supports 18 crustose and 9 foliose species, whilst the north-facing side supports 9 crustose and 11 foliose species. Where the same species are present on both sides, the thalli on the south-facing aspect are always larger and more fertile than those facing in the opposite direction. Crustose lichens are generally more tolerant of dry or polluted atmospheres, whilst foliose lichens increase in number as the moisture increases.

*Xanthoria parietina*, a foliose lichen found on both sides of the wall, exhibits a sun and shade form. On the south-facing side the thalli are bright orange, whilst on the shaded, north-facing side they are a greenish-yellow colour with more prominent lobes. Both *Lecanora dispersa* and *L. muralis* cover large areas of these walls, growing equally well on both aspects.

FRANCES B.M. DAVIES

## THE FUNGUS FORAY, 1986

The fungus foray was led as usual by Dr D. A. Reid with the assistance of Mrs Audrey Thomas. This year we visited Sharpenhoe Clappers in the morning and after lunch crossed to the other side of the road to search Markham Hill Wood. Conditions were far from ideal due to dry weather, and the late date of the meeting. Markham Hill Wood was particularly poor for agarics due to the steep slopes of the beech wood and consequent lack of humus. However, despite the poor season, 86 species were found of which ten were new to the county.

In general the new agaric records involved small or rather drab looking species. Of the two species of *Psathyrella*, *P. pygmaea* is distinguished by its small size. However, it is easily confused with *Coprinus disseminatus* with which it often grows. It is separated from the latter on microscopic examination by having the unusual combination of bottle-shaped cystidia with a capping of crystals and small, pale coloured spores  $5.0-6.5 \times 3.5-4.0 \mu\text{m}$  (the spores of *C. disseminatus* measure  $7.5-10.0 \times 4.0-5.0 \mu\text{m}$ ). *P. marcescibilis* is a more typical member of the genus, with tall white brittle stem, and a pale acorn-shaped greyish to whitish cap, with appendiculate white remnants of the veil at the margin. It is not uncommon in beech woods on chalk soils. This species has large, blackish spores,  $10.0-14.2 (15.0) \times 5.7-7.5 \mu\text{m}$  and while having cheilocystidia, lacks cystidia on the gill face.

*Pluteus griseopus* is not uncommon, but is easily confused with other species. It has a vandyke or umber-brown cap with a cellular cuticle, and a whitish to grey tinted stem; the flesh in the stem is also grey. *Mycena capillaris* is a tiny white species growing on fallen leaves, in which the elements of the cap cuticle are densely covered with granular projections; the spores are subcylindric to narrowly boat-shaped.

Other unusual agarics which have been found on rare occasions in previous years were the small white *Coprinus cortinatus* with white mealy cap, *C. ellisii* which is similar to *C. domesticus* and *C. radians* but has smaller bean-shaped spores  $6.0-8.5 \times 3.0-3.75 \mu\text{m}$ , and a brown, volva-like tomentum at the base of the stem, and *C. galericuliformis* which is closely related to *C. plicatilis* but with a pale ochraceous buff, cylindrical cap which is slow to open, and conspicuously grooved at the

margin; the black spores are subglobose to triangular in face-view but elliptic in side-view.

Of the non-gill-bearing Basidiomycetes (Aphylophorales), *Polyporus brumalis* is a widespread species, but fruits gregariously on fallen branches late in the season through into spring. It has a central stalk, which unlike that of the related species, is never blackish-brown, the edge of the cap is often beautifully fringed and the pores are relatively large, being easily visible to the naked eye. The two remaining additions to the county list are both supine species; the genus *Tomentella* comprises such resupinate fungi, all of which have brown spiny spores, varying from globular or kidney-shaped to triangularly lobate, but while the genus is easy to characterize by this feature, the species are exceedingly difficult to name.

The two species of *Hypoxylon* are black stromatic flask-fungi (Ascomycetes: Pyrenomycetes). *H. numularium* forms flat 5p-sized discs on beech, but it is necessary to check that the spores in the sunken flasks (perithecia) contain black, subglobose to ovate spores, 11-14 x 7-10µm. This species is not uncommon in beechwoods on chalk downland in south east England. *H. confluens* is a species in which the large flasks are partially immersed in the substrate — a feature better conveyed by the epithet *H. semi-immersum* which is a synonym! The spores of the species, also black, measure 15-22 x 8-12µm.

Finally *Eutypa spinosa*, another stromatic Pyrenomycete, is recognised by its having the surface of the fruitbody coarsely roughened by the numerous protruding knobby, sulcate necks of the perithecia. The spores are pale straw-coloured, curved, 6-8 x 2µm.

In the following list the sites where the species were found are denoted by S (Sharpenhoe Clappers) and M (Markham Hill Wood).

*Bolbitius vitellinus*, S; *Clitocybe cerussata*, S; *Collybia dryophila*, M; *Coprinus cortinatus*; *C. disseminatus*, S, M; *C. ellisii*, S; *C. galericuliformis*, M; *C. impatiens*, M; *C. lagopus*, S; *C. micaceus*; *C. plicatilis*, S; *Crepidotus variabilis*, S; *Marasmius epiphyllus*, S, M; \**Mycena capillaris*, M; *M. galericulata*, S; *M. galopus*, S; *M. olida*, S, M; *M. oortiana*, S; *M. polygramma*, M; *M. pura*; *M. speirea*, S, M; *Oudemansiella radicata*, S, M; *Pholiota squarrosa*, M; \**Pluteus griseopus*, S; *P. phlebophorus*, S; *P. salicinus*, S; *Psathyrella conopilea*, S, M; \**P. marcescibilis*, M; \**P. pygmaea*; *Tephroclype anthracophila*; *Tubaria autochthona*, S.

*Bjerkandera adusta*, S, M; *B. fumosa*, S; *Brevicellicium olivascens*; *Coniophora puteana*, M; *Coriolus versicolor*, S; *Ganoderma applanatum*, S; *Heterobasidion annosum*, S; \**Hyphoderma puberum*; *Hyphodontia nesporei* (= *papillosa*), S; *H. sambuci*, S; *Merulius corium*, M; *Mycocacia uda*, S; *Peniophora lycii*, S; *P. quercina*, S; *Phellinus ferruginosus*, S; *Phebia* (*Merulius*) *rufa*, M; *Polyporus badius*, M; \**P. brumalis*, S; *P. squamosus*, M; *P. varius*, S; *Radulomyces confluens*, M; *Stereum hirsutum*, M; \**Tomentella ochracea*; *Typhula erythropus*, S; *Tyromyces caesius*, S, M.

*Calocera cornea*, M; *Dacrymyces stillatus*, S, M.

*Myxarium nucleatum*, S.

*Auricularia auricula-judae*, S, M; *A. mesenterica*, S.

*Phragmidium violaceum*, S. *Puccinia poarum*, M.

*Lycoperdon pyriforme*, S, M.

*Bisporella citrina*, S; *Cyathicula coronata*, S; †*Hymenoscyphus calyculus*, S; *H. fructigenus*, M;

*Orbilia xanthostigma*, M; *Peziza micropus*, S; *Phialea cyathoidea*, S; *Rhytisma acerinum*, S, M.

*Diatrype disciformis*, S, M; *D. stigma*, S; \**Eutypa spinosa*, S; \**Hypoxylon confluens*;

*H. fragiforme*, M; \**H. numularium*, M; *Nectria cinnabarina*, S; *Ustulina deusta*, M; *Xylaria carpophila*, M; *X. hypoxylon*, S; *X. polymorpha*, S.

*Bactridium flavum*, S, M; *Ozonium auricomum*, S.

*Badhamia utricularis*, S.

\* New county record

† Confirmation of old record

DEREK A. REID

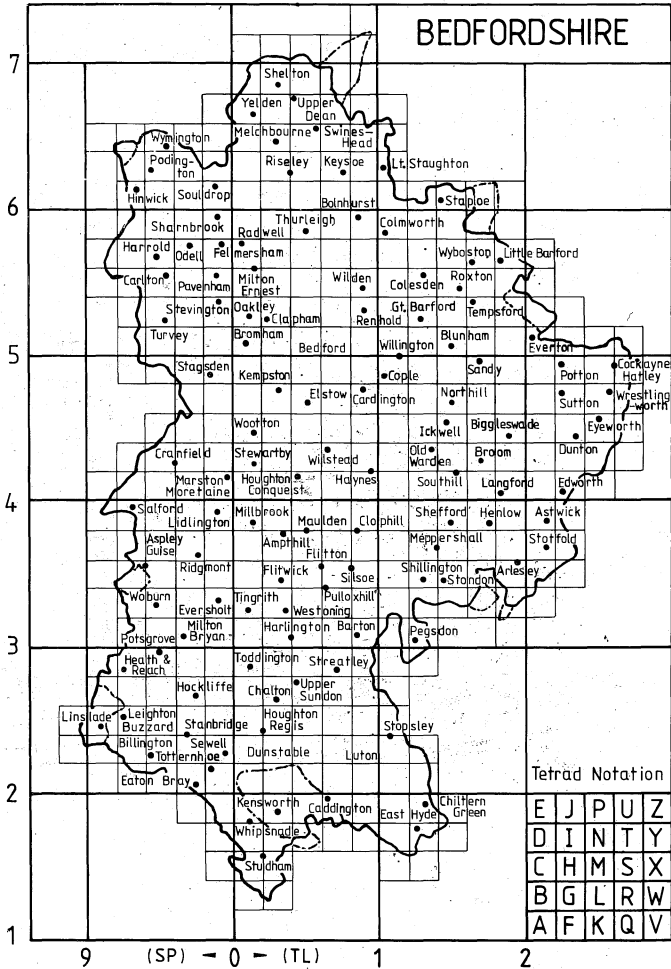
## RECORDERS

- Meteorology*: Mr M.C. Williams, 2 Ivel Close, Barton-le-Clay, Bedford MK45 4NT  
*Geology and Palaeontology*: Mr P.J. Smart, 46 Brecon Way, Bedford MK41 8DD  
*Mammals*: Mr D. Anderson, 88 Eastmoor Park, Harpenden, Herts AL5 1BP  
*Birds*: Mr P. Trodd, White Garth, West Parade, Dunstable, Beds LU6 1EN  
*Reptiles and Amphibians*: Mrs H.M. Muir-Howie, 19 Molivers Lane, Bromham, Bedford MK43 8JT  
*Fish*: Mr A. Muir-Howie, 19 Molivers Lane, Bromham, Bedford MK43 8JT  
*Slugs, Snails and Leeches*: Mrs E.B. Rands, 51 Wychwood Avenue, Luton LU2 7HT  
*Harvestmen and Pseudoscorpions*: Dr A.J. Rundle, 219 Mortlake Road, Kew, Richmond, Surrey TW9 4EW  
*Dragonflies*: Dr N. Dawson, 2 The Old House, Ickwell Green, Biggleswade, Beds SG18 9EE  
*Grasshoppers and Crickets*: Mr D.G. Rands, 51 Wychwood Avenue, Luton LU2 7HT  
*Bugs*: Dr B.S. Nau, 15 Park Hill, Toddington, Dunstable, Beds LU5 6AW  
*Lacewing Flies*: Dr B. Verdcourt, The Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB  
*Butterflies*: Mr A.J. Martin, 18 Aragon Road, Ampthill, Bedford MK45 2TL  
*Moths (macro)*: Mr V.W. Arnold, 96 St. Augustines Avenue, Luton LU3 1QE  
*Moths (micro)*: Mr D.V. Manning, 27 Glebe Rise, Sharnbrook, Bedford MK44 1JB  
*Hoverflies*: Dr N.F. Janes, 82 Marston Gardens, Luton LU2 7DY  
*Bumblebees*: Mr J.P. Knowles, 38A Steppingley Road, Flitwick, Bedford MK45 1AN  
*Ants*: Dr A. J. Rundle, 219 Mortlake Road, Kew, Richmond, Surrey TW9 4EW  
*Woodlice, Centipedes and Millipedes*: Dr A.J. Rundle, 219 Mortlake Road, Kew, Richmond, Surrey TW9 4EW  
*Flowering Plants, Ferns and Fern Allies*: Mr C.R. Boon, 7 Duck End Lane, Maulden, Bedford MK45 2DL  
*Mosses and Liverworts*: Mr A.R. Outen, 15 Manor Close, Clifton, Shefford, Beds SG17 5EJ  
*Lichens*: Mrs F.B.M. Davies, "Rose Cottage", 69 The Hill, Wheathampstead, St. Albans AL4 8PR  
*Fungi*: Dr D.A. Reid, The Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB  
*Bird Ringing Co-ordinator*: Mr D.S. Woodhead, 79 The Moor, Carlton, Bedford MK43 7JS

## THE SOCIETY

The Bedfordshire Natural History Society was formed in 1946 and its main function is to record the flora and fauna of the county. For this purpose it has over twenty active recorders, listed above, who cover most branches of natural history study, and whose annual reports are published in this journal. Members also receive a quarterly newsletter, *The Muntjac*, and programmes of meetings. These latter include field meetings to sites having a natural history interest within the county and occasional meetings further afield. During the winter months there are illustrated lectures, normally held at one of the following places: Bedford, Dunstable, Leagrave, Ampthill or Flitwick.

The Society depends on the annual subscriptions which are devoted entirely to carrying out its work, as all officers are honorary. Membership is open to anyone, whether resident in the county or not.



*Tetrad map of Bedfordshire showing the main towns and villages*

Price per copy of *The Bedfordshire Naturalist*:  
 £3.50 (including postage) from the Membership Secretary, "Owlswood",  
 4 Oakley Road, Bromham, Bedford MK43 8HY  
 (Cheques payable to Bedfordshire Natural History Society)