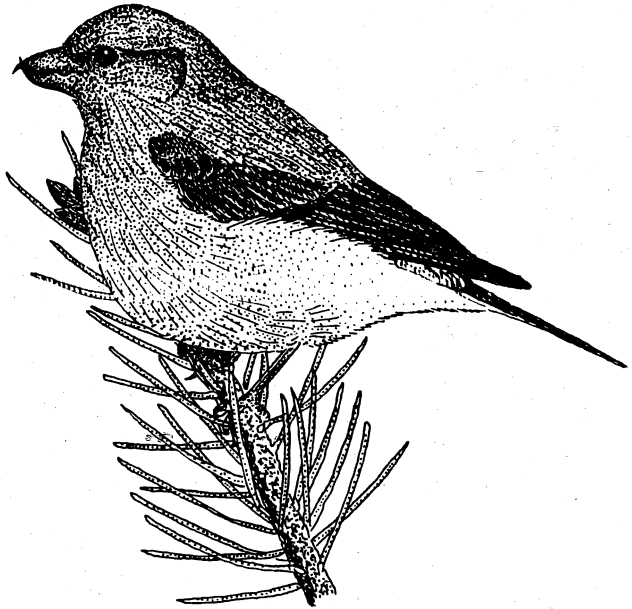


# The Bedfordshire Naturalist 45



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for the year 1990

Bedfordshire Natural History Society 1991

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# BEDFORDSHIRE NATURAL HISTORY SOCIETY 1991

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Mr C. Baker

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Ms J. Childs  
Mr W. Drayton

Dr P. Hyman  
Dr P. Madgett  
Mr P. Soper

## Honorary Editor (*Muntjac*):

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**Development:** Mrs A. Adams (Sec.), Mr J. Adams (Chairman), Ms C. Aldridge (Deputy Chairman), Mrs B. Chandler, Mr M. Chandler, Ms J. Childs, Mr A. Dickens, Mrs J. Dickens, Mr P. Soper.

**Programme:** Mr J. Adams, Mr C. Baker, Mr D. Green, Mr D. Rands, Mrs M. Sheridan.

**Trustees** (appointed under Rule 13): Mr M. Chandler, Mr D. Green, Mrs B. Rands.

## THE BEDFORDSHIRE NATURALIST

No. 45 (1990)

Edited by C.R. Boon

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## REPORT OF COUNCIL FOR 1990

During 1990 fifty indoor and field meetings were organised by the Society, together with a weekend in Yorkshire in June, the annual mid-summer barbecue in Maulden Woods and the one day course at Shuttleworth in September. Among the highlights of the year, the Society completed its last un-walked section of the Greensand Ridge Walk from Northill to Gamlingay; an excellent weekend in Yorkshire was organised by Vic Arnold who regrettably announced that this would be the last such trip after some ten years; Henry Key, a founder member of the Society and for many years its Secretary, gave a fascinating talk and slide show based on his early memories of the Society; and as a new venture a field meeting was held on Boxing Day morning and well attended despite unkind weather.

Visiting speakers included Barry Trevis with hair-raising accounts of bird watching in Peru, Mike Wilkes with a first rate and entertaining presentation on the theme of a "Wildlife Photographer's Year", and Dr. Laurence Jones-Walters on a local rarity, the edible dormice. In addition, many members of the Society gave talks, presented slideshows, organised and chaired meetings, and led field trips both within and outside the county. All in all, members were able to enjoy a busy, varied and active year.

A quite different event of some importance to the Society has been the transformation which has been applied to the quarterly newsletter, *The Muntjac*. The appearance of this has been greatly improved through alternative methods of both origination and duplication, and now also has a new editor, in the person of Carol Aldridge. Council feels that it is important that members are kept up to date with news and events relevant to the Society, and that the Newsletter should be of a standard which will help to sell and promote the Society to the public at large. As a consequence of these changes, the newsletter has been subject to some experimentation, but a more uniform and consistent publication should now be forthcoming.

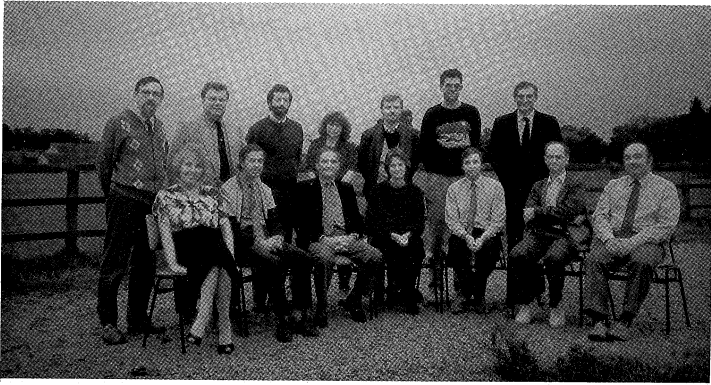
In its report for 1988 Council announced a new policy for publications and the establishment of a rolling programme of future publications. This programme is proceeding with four books under active preparation: Butterflies (1991), Molluscs (1992), Bryophytes (1994), and Breeding Birds (1995). Publications are the immediate responsibility of the Scientific Committee supported by the assets of the Society.

Another feature of the Society's activities has been the increasing number of promotional events which the Society has attended, such as the Countryside Day at Dunstable Downs in September. The Society's presence on such occasions does much to publicise the existence of the Society and its activities to the public, and has also resulted in new members joining the Society. It is pleasing to report that after some decline, the Society's membership at the end of 1990 was higher than for some years, with a total membership of 430 (compared with 419 at the end of 1989). Council would like to thank the Chairman and members of the Development Committee for their hard work in promoting the Society, and other members who have helped to support the Society at these events.

MIKE WILLIAMS  
*Hon. Secretary*

*Table: Membership of the Society 1986-1990*

	1986	1987	1988	1989	1990
Ordinary Members	375	378	362	356	360
Associate Members	62	55	43	42	52
Student Members	14	15	7	6	3
Corporate Members	7	9	9	9	8
Life Members	5	4	4	4	5
Honorary Life Members	2	2	2	2	2
	465	463	427	419	430



*Council of the Bedfordshire Natural History Society (1990-91) — Flitwick June 1990*  
*Back row, L. to R. — Charles Baker, Alan Martin, David Allen, Joan Childs, Peter Soper, Tony Aldhous, David Anderson (Chairman).*  
*Front row, L. to R. — Mary Sheridan (Membership Secretary), Mike Williams (Secretary), Don Green, Rosemary Brind (Scientific Secretary), Paul Hyman, Chris Boon (Journal Editor), John Burchmore (Treasurer).*  
*(Not present: Carol Aldridge (Newsletter Editor), Steve Cham.)*

*Photo: David Anderson*

## PROCEEDINGS

### Indoor Meetings

- 614th Ordinary Meeting** 3rd January, Bedford. "Basic techniques of wildlife photography" by Mr R. Revels FRPS. Chair: Mrs M. Sheridan.
- 615th Ordinary Meeting** 16th January, Dunstable: "Equipment for the naturalist" by Society members. Chair: Dr D. Allen.
- 616th Ordinary Meeting** 24th January, Leagrave. Members' evening. Chair: Mr C. Baker
- 617th Ordinary Meeting** 1st February, Bedford. Twitchers' evening. Chair: Mr P. Trodd.
- 618th Ordinary Meeting** 14th February, Harlington. "In search of dragons and damsels" by Mr S. Cham. Chair: Mr D. Rands.
- 619th Ordinary Meeting** 20th February, Dunstable. "Birding in Peru" by Mr B. Trevis. Chair: Mr R. Dazley.
- 620th Ordinary Meeting** 7th March, Bedford. "Flowers of the Bedfordshire chalk downland" by Mr C. Boon. Chair: Mr A. Outen.
- 621st Ordinary Meeting** 14th March, Leagrave. "Lives of insects" by Mr C. Baker. Chair: Dr P. Hyman.
- Annual General Meeting** 22nd March, Flitwick.
- 622nd Ordinary Meeting** 4th October, Bedford. "Local fossils and their identification" by Mr G. Osborn. Chair: Mrs B. Rands.
- 623rd Ordinary Meeting** 16th October, Dunstable. Mystery slide quiz. Chair: Mr W. Drayton.
- 624th Ordinary Meeting** 24th October, Aspley Guise. "A wildlife photographer's year" by Mr M. Wilkes. Chair: Mr R. Revels. Joint meeting with the Milton Keynes Natural History Society.
- 625th Ordinary Meeting** 7th November, Bedford. "Edible dormice" by Dr L. Jones-Walters, NCC Officer. Chair: Mr J. Adams.
- 625th Ordinary Meeting** 20th November, Dunstable. "Spring in the French Alps" by Mr M. Chandler. Chair: Ms C. Aldridge.

- 627th Ordinary Meeting** 29th November, Flitwick. Current affairs in Beds. Organised by Miss R. Brind.
- 628th Ordinary Meeting** 6th December, Bedford. "Sixty years in retrospect" by Mr H. Key, founder member of the Society. Chair: Mr D. Green.
- 629th Ordinary Meeting** 19th December, John Dony Field Centre, Luton. Members' evening. Chair: Dr P. Hyman.

### Field Meetings

- Lemsford Springs Nature Reserve, nr. Welwyn Garden City** 28th January. Study of a man-made habitat. Leader: Mr D. Green.
- Abberton Reservoir and Blackwater Estuary, Essex** 18th February. Winter birdwatching. Leader: Mr P. Soper.
- Priory Country Park, Bedford** 18th March. Birdwatching for winter visitors and early migrants. Leader: Mr G. Dennis.
- Pegsdon Hills** 8th April. Natural history ramble. Leader: Mr M. Williams.
- Blow Downs** 22nd April. To watch spring migrants. Leader: Mr P. Trodd.
- Maulden Wood** 6th May. Dawn chorus. Leader: Mr P. Trodd.
- Norfolk coast** 13th May. Birdwatching. Leader: Mr D. Green.
- Eversholt to Millbrook** 17th May. A walk along the Greensand Ridge. Leader: Mr J. Knowles.
- Potton Wood** 20th May. Botanical exploration. Leader: Mr C. Boon.
- College Lake Nature Reserve, nr. Pitstone, Bucks** 23rd May. Study development of newly established reserve. Leader: Reserve Warden.
- Priory Country Park, Bedford** 3rd June. All-day event by BNHS and the Beds. Bat Group.
- Brogborough Manor Link Farm** 6th June. Examples of landscape and wildlife conservation combined with modern farming. Leader: Mr M. O'Brien. Countryside Adviser: Beds. C.C.
- Warden Great Wood** 10th June. General natural history. Leaders: Messrs J. Adams and D. Parsons.
- Yorkshire Dales** 5-17th June. Weekend walking trip. Leader: Mr V. Arnold.
- Stockgrove Country Park** 20th June. Joint meeting with Beds. Bat Group.  
Leader: Countryside Ranger.
- Maulden Wood** 24rd June. Midsummer barbecue. Organiser: Mrs B. Chandler.
- Moat House, Bedford** 28th June. To listen to the calls of the Midwife Toad.  
Leader: Mrs H. Muir-Howie.
- Harrold/Odell Country Park** 30th June. Ringing of Canada and Greylag Geese.  
Leader: Mr D. Rands.
- Bison Hill, Whipsnade** 6th July. Nothing evening. Leader: Mr V. Arnold.
- Northhill to Gamlingay** 8th July. Walk along Greensand Ridge Walk. Leader: Mr J. Knowles.
- Bernwood Forest nr. Thame** 15th July. General natural history with butterflies in particular.  
Leader: Mr A. Martin.
- Tiddenfoot Waterside Park, Leighton Buzzard** 18th July. Leader: Mrs M. Sheridan.
- The Lodge, Sandy** 25th July. Joint meeting with Beds. Bat Group. Leader: Mrs J. Childs.
- Rowney Warren** 12th August. Wildlife of woodland rides. Leader: Miss R. Brind.
- Startop's Reservoir nr. Tring** 29th August. Birdwatching including roosting Swallows.  
Leader: Mr C. Baker.
- Maulden Wood** 2nd September. Small mammal trapping. Leader: Mr D. Rands.
- Bedfordshire** 22nd/23rd September. Mammal-thon. Organiser: Mr D. Anderson.
- Shuttleworth Agricultural College** 30th September. One day course on a variety of natural history subjects. Organiser: Mrs B. Rands.
- Dungeness, Kent** 14th October. Autumn passage migrants. Leader: Mr M. Williams.
- Ashridge** 21st October. Deer rut. Leader: Mr S. Cham.
- Wrest Park, Silsoe** 28th October. Annual fungus foray. Joint meeting with The Mycological Society. Leader: Dr D. Reid.
- Pagham Harbour nr. Chichester** 11th November. Birdwatching. Leader: Mr P. Soper.
- Woburn Park** 26th December. Boxing Day walk. Leader: Mrs M. Sheridan.
- Norfolk coast** 30th December. Birdwatching. Leader: Mr D. Green.

## REPORT OF THE TREASURER

The current account shows a surplus for the year of £521. In future, to give a more accurate view of the current account, deficit/surplus figures will be carried forward to the next year.

During the year we received a grant towards the publication of the Journal from Bedfordshire County Council of £345 and Luton Borough Council printed one copy of our newsletter *The Muntjac* and gave a grant of £100 towards its cost. North Bedfordshire Borough Council gave a grant of £300 for a 40-year index to the Journal and this is being held in the publication account pending production. McCoy Car Sales of Bedford donated £50 being the cost of programmes for our Priory Park open day. The City of Nottingham Bond for £3,000 which became repayable during the year has been renewed at a higher rate of interest until 30.6.95.

The assets of the Society now stand at £32,935.

J.D. BURCHMORE  
Hon. Treasurer

### INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER 1990

#### INCOME—Current Account

1989		1990	
£		£	
2811	Subscriptions	2211	
—	Sales	76	
—	Journal sales	375	
9	Surplus on meetings	—	
345	Sundries and donations	481	
<u>3155</u>		<u>3143</u>	

#### EXPENDITURE—Current Account

—	ADMINISTRATION		
—	Postage	7	
49	Sundries	45	
50	Insurance	50	
—	Officers' expenses	—	
20	Auditors' honorarium	10	
119		112	
—	MEETINGS		
197	Hire of halls, etc.	79	
34	Lecturers and films	43	
234	Programmes	229	
465		351	
—	SCIENTIFIC		
2678	Journal	1327	
8	Recorders' expenses	25	
17	Sundries	26	
2703		1378	
—	PUBLICITY/DEVELOPMENT		
208	Newsletter	412	
48	Sundries	65	
—	Advertising and publicity	42	
—	Car stickers	207	
256		726	
—	DEPRECIATION		
35	of equipment	55	
(423)	Excess of income over expenditure	521	
<u>3155</u>		<u>3143</u>	

1989		1990	
£		£	
499	Brought forward	78	
232	Income	506	
653		261	
78	Expenditure	323	

#### DEPOSIT ACCOUNTS—Interest

443	Bank (H.C.A.)	516	
1220	Town and Country Building Society	2387	
212	East Staffs. D.C. Bonds	—	
241	Worthing Corp. Bonds	241	
80	Edinburgh City Bonds	—	
387	City of Nottingham Bonds	422	
362	Income Tax rebate	412	
2945		3978	

#### 1989 BALANCE SHEET AS AT 31st DECEMBER 1990

1989	FIXED ASSETS	COST DEPRECIATION		1990
		Total	Year	
5	Books and journals	35	5	—
2	Screen	20	2	—
20	Malaise and mammal traps	50	5	15
23	Duplicator and stand	30	23	—
311	Display boards	371	80	291
<u>361</u>				<u>306</u>
—	CURRENT ASSETS			
852	Bank Current Account			271
2655	Bank High Interest Account (at 12.5% variable)			2742
—	Cash in hand			—
15384	Town & Country Building Soc. (at 13.75% variable)			20772
3000	City of Nottingham Bonds (to 30.6.90 at 8.4% to 5.4.91 at 11.54% then to 30.6.95 at 12%)			3000
3000	Worthing B.C. Bond (to 28.11.91 at 10.75%)			3000
3000	City of Nottingham Bonds (to 30.6.91 at 8.77%)			3000
27891				32785
63	CURRENT LIABILITIES			
28189	Creditors (uncleared cheques)			156
				<u>32935</u>

J.D. BURCHMORE  
Hon. Treasurer

M and D READING  
Honorary Auditors



John G. Dony 8 August 1899

- 24 March 1991

(Photo: James Dyer)

**JOHN G. DONY (1899–1991)**  
**A BOTANICAL APPRECIATION**  
by **C.R. Boon**

The passing of John Dony on 24 March 1991 marked the end of an era for Bedfordshire, an era which furthered the knowledge of the botany of this small inland county to a level unequalled by any comparable area in the British Isles. John Dony continued in a distinguished line of local botanists which began with Charles Abbot whose *Flora Bedfordiensis*, published in 1798, was the first local flora to be printed in the English language. John Dony's own *Flora of Bedfordshire*, published in 1953, was the culmination of 18 years field work. It was highly acclaimed as being among the best local floras of the present century, and was without doubt his greatest achievement. In addition to the undoubted scholarship which is evident from the text of the book, the inclusion of 86 detailed habitat studies provides an invaluable snapshot of the flora of the differing geological areas of the county at the mid-point of the century. The idea was simple, in retrospect, and the surveys were carried out with the meticulousness we came to expect from the author and provided an essential baseline for future studies.

Some 25 years later John Dony himself revisited these sites and was able to show with confidence how the floristic richness of certain of our county's habitats had significantly diminished. In particular heath and acid grassland and, more clearly, marsh and water meadows showed maximum decrease. These results were published in a paper entitled 'Change in the flora of Bedfordshire, England, from 1798 to 1976' (*Biological Conservation* 1977 11 307-320).

It is possible that it was these detailed studies of small areas that led to his interest in the numbers of plant species that might be expected in a given area of countryside. He published several papers on the topic of species-area relationship over the years. The quantification of this relationship was made possible by his detailed survey of the county over the years 1970 to 1975 in collaboration with his wife Chris. This culminated in his second botanical magnum opus for the county, the *Bedfordshire Plant Atlas*, published in 1976. Within this work there are detailed distribution maps of 800 species of flowering plants found in the county. It is unlikely that any other county can claim such a detailed

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knowledge of its plant distribution over the short span of six years. An important consequence of this study was that the most significant plants growing in the county could be listed and assigned a score. By listing the *significant species* of a site a *plant rarity factor* could be assigned, a valuable quantitative assessment for the purposes of conservation.

It must not be forgotten that John Dony devoted several years to the study of the flora of the neighbouring county of Hertfordshire. The *Flora of Hertfordshire* was published in 1967 and was again a magnificent work, duly receiving critical acclaim. To have been the author of three major works on the flora of English counties is certainly a magnificent achievement and many present and future students of the flora of these two counties will for ever be in his debt.

In addition to the native flora of Bedfordshire, John Dony brought the attention of the botanical world to the large alien flora that occurred in the market gardening areas of the county. Woolshoddy was used on the light soils to assist in moisture retention, but, attached to the wool, which was mainly of foreign origin, were the seeds of many plants. These found the sometimes hot and dry conditions to their liking and many unusual plants appeared. Identification was often a problem and the arable fields of Bedfordshire became for many years a mecca for British botanists. Several hundred species were recorded and an article on the origins and study of these aliens 'The travels of plants' was published in co-authorship with J.E. Lousley (*Bedfordshire Magazine* 1952 3(21) 185-189).

At a national level John Dony gave much of his time, energy and, not least, his clear-thinking ability to the Botanical Society of the British Isles (BSBI). He joined in 1937 and became active as secretary on many of the committees from 1949 to 1956 when he became General Secretary, a very onerous post which he held until 1963. He was appointed a vice-president in 1963 and subsequently held the post of President from 1967 to 1969. During his tenure he delivered a forthright presidential address on the subject of the mapping of the British flora, a subject dear to his heart. He also oversaw the amalgamation of the society's two main publications into a single journal under the continuing title *Watsonia*. This is still the main scientific organ of the BSBI. Following his presidency he actively supported and helped to further the progress of the society, he continued to attend the AGM's up to 1990. One of the highlights of the year was the meeting of botanical friends at the annual Exhibition Meetings held at the Natural History Museum in London, he attended all these up to 1989. He attended and presented papers at many of the society's conferences. Not least in his work for the BSBI was the post of County Recorder which he held until 1983 when he stepped aside, as he put it, for a younger man.



*John Dony on his last visit to Knocking Hoe, 29 May 1990*

*(Photo: Chris Boon)*

In 1971 he proposed the need for a recommended list of English names of the wild flowers of the country. In 1974 such a book was published with John Dony as co-author. So successful was the venture that a second, much revised, edition was published in 1986 (*English Names of Wild Flowers* by J.G. Dony, S.L. Jury and F.H. Perring). This was by no means an attempt to stifle the wonderful local names that occur throughout the country for wild flowers, but to reduce the confusion that has often occurred.

At the local level his involvement with the Bedfordshire Natural History Society (BNHS) from its inception was carried out with enthusiasm. He always claimed that he was not a founder member as he did not attend the inaugural meeting on 14 October 1946, but he was immediately appointed the Recorder for flowering plants, a post he held until 1986. In the *Bedfordshire Naturalist* over the years are the reports which indicate his continued detailed study of the county's flora.

In 1936, at the start of his studies for the *Flora of Bedfordshire* John Dony was appointed Honorary Keeper of Botany at Luton Museum and Art Gallery, a post he held until 1988. One of the outstanding legacies of this period to the botany of Bedfordshire is the presence of the magnificent herbarium housed at Luton Museum. With great vigour and much persuasion by John Dony many historical herbaria, including that of Charles Abbot, came to Luton. Added to these are the results of his own collecting and together they form an invaluable scientific base which is available to researchers for the study of the county's flora.

The most important botanical site in Bedfordshire is Knocking Hoe which was designated a National Nature Reserve (NNR) in 1958. It was only because of intensive lobbying in the right quarters by John Dony that ensured this valuable site was saved for the nation. The plant community of Knocking Hoe is unique and indicative of a long-standing area of virgin chalk downland, several of its species being national rarities. One of the last outings I was to make with John in 1990 was to revisit this small site and he was pleased to see the continuing excellence of its vegetation. He was always concerned with the conservation of sites and was instrumental in the setting up of the Bedfordshire and Huntingdonshire Naturalists' Trust (now called the Bedfordshire and Cambridgeshire Wildlife Trust). It was in recognition of his work for nature conservation in south Bedfordshire that he was awarded the MBE in 1983, an honour of which he was justly proud.

Never one to stand back when there was a cause worthy of involvement John Dony became exceedingly worried in recent years over the increasing habit of the sowing of wild flower seeds in the wild. He perceived, as did many other botanists throughout the country, that this practice, through inappropriate sowing, could eventually have a detrimental effect on local wild flower distribution. In his inimitable style he was able to ensure that guidelines were laid down, at least locally, so that sensible approaches were adopted.

Over the two year period 1987 to 1988 the BSBI instigated a survey of the British flora. During the discussions which took place to formulate the procedures to be adopted John Dony made many suggestions which were acted upon, the main one being that the survey should be based on 1 in 9 10km National Grid squares rather than 1 in 10, the result being a simplification in that every third square north and east of the chosen origin would be chosen for surveying. With full enthusiasm at the age of 88 recording was begun in earnest and, when the full results are published later this year, it will be seen that John and Chris Dony together were fifth in the league table for number of records sent in, a remarkable achievement. Not content with this the Donys continued recording in the Luton area for a further year. The results of their endeavours are published in *The Wild Flowers of Luton*. Sadly John did not live to see the work past the proof stage.

During the last 15 years I have made many botanical excursions in the county with the Donys, and John was held in such respect by landowners and farmers that there was rarely any difficulty of visiting sites. Indeed it was surprising how many people we came across during our outings who had been taught by John at Luton Grammar School, where he taught history and economics from 1941 to 1964. Among the memories of these trips were the tales told, many humorous, of people in high places whom he had known. Care was needed while botanising in rough places to ensure one did not come to grief in 'Dony traps'! During any outing, especially on a Saturday, it was essential to return to the car in time for the football results, John was an ardent supporter of Luton Town.

I shall be ever grateful that I had the privilege of being a friend and botanical colleague of John Dony. He taught me much but it will be difficult to ensure the excellence of botany in Bedfordshire is maintained on the present high plane. The county, indeed the country, is a poorer place without him.

## THE WRITINGS OF JOHN G. DONY

### by C.R. Boon

The references below are, as far as the author can determine, a complete listing of the writings of John Dony from 1942 to 1991. The total number is 168, a remarkable achievement for 49 years. For completeness all non-natural history publications are included, many relating to the straw hat industry, as well as several unpublished reports. The latter contain much valuable information on the flora of Bedfordshire.

- DONY, J.G. 1942 *A history of the straw hat industry*. Luton 219pp.
- DONY, J.G. 1943 *The Luton hat industry*. (Report to Nuffield College Social Reconstruction Survey) [Unpublished report]
- DONY, J.G. 1945 *Wild flowers in Bedfordshire*. Luton. 15pp [Exhibition catalogue]
- DONY, J.G. 1946 Additions and emendations to the Comital Flora for v.c. 30 (Bedfordshire). *Botanical Society and Exchange Club 1943-44 Report* 12 803-814
- DONY, J.G. 1946 The hat industry, in SILVERMAN, H. A., ed. *Studies in industrial organisation*, pp. 155-198. London.
- DONY, J.G. 1947 Report on Botany for 1946 (Flowering plants and vascular cryptogams). *Journal of the Bedfordshire Natural History Society* 1 14-15
- DONY, J.G. 1947 What Bedfordshire is. *Journal of the Bedfordshire Natural History Society* 1 8-12
- DONY, J.G. 1947 Bedfordshire naturalists: 1. William Crouch (1818-1846). *Journal of the Bedfordshire Natural History Society* 1 50-52
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## METEOROLOGY

### Report of the Recorder

Taking 1990 as a whole, the mean temperature did not quite achieve that for 1989, despite one of the hottest summer days on record. The year was distinctly dry (and that in an area which is normally one of the driest areas of the country). Other notable features included gales in January (the Burns Day storm) stronger than in '87; an unexpected, localised and short-lived snowfall in early February; and an April which was the frostiest month of the year. The later months were less extreme, though an early but mainly light snowfall in December in Bedfordshire gave little hint of the chaos not 50 miles to the north. In compiling this report reference has been made to Eden (1991) to provide a broader picture for the British Isles as a whole.

January was mild and wet with only one air frost, and that only just. The most notable feature of the month was the exceptionally stormy weather of 25th January (itself part of a notably stormy sequence) which in Bedfordshire reached its peak about midday. Damage was widespread and obvious, with many roads blocked by fallen trees, and much, mostly minor damage to houses and other buildings. Indeed, tree damage is still much in evidence 12 months later. The severe weather was far more widespread over the country than the storms of October 1987, and the loss of life was also much higher, being attributed to the fact that the worst of the weather occurred during daylight hours.

February was similarly mild and wet, but a localised snowfall occurred on the 3rd when heavy rain turned increasingly to snow giving as much as 6cm by midday over the higher ground in the south of Bedfordshire. This snowfall was restricted very much to the Chilterns, and is an interesting example where the sheer intensity of precipitation involving melting snow is sufficient to lower the temperature, bringing the freezing level down to ground level while the precipitation lasts. The 26th of the month also proved exceptionally windy almost rivalling the late January storm in intensity.

March was also very warm with temperatures reaching 21°C (70°F) on two days mid-month. It was also a very dry month with precipitation on only four days, and was probably the driest March since 1961. Despite the warmth, air frost re-appeared on three nights towards the end of the month. This colder weather continued into the first week of April with several more frosty nights and some snow showers. Temperatures recovered subsequently, but overall daytime temperatures were little higher than in March, though still above average for April, and only the mean minimum for December was lower than that for April.

May was an exceptionally dry month with just 2.8mm of rain recorded at Silsoe (falling on three days) making it probably the driest May for at least 100 years. Daytime temperatures were once again above average, and indeed reached as high as 27°C (80°F) on the 3rd and the 4th, but there were many cool nights with ground frost on 14 occasions, and an air frost as late as the 26th of the month. In contrast, the mean daytime temperature in June was lower than that in May, and was the first colder than average month since April the previous year. It was moderately wet and quite dull as well.

Much the same weather continued through the first week of July, so that despite the hot weather that prevailed for the remainder of the month no significant records were broken. The highest temperature of the month 31°C (89°F) occurred on the 20th in a spell of four very hot days, but there were several other days with temperatures in excess of 26.7°C (80°F). Total rainfall was below normal, and occurred at the very beginning and at the very end of the month. August continued with more hot days particularly at the start and at the end of the month. On the 3rd a new record high temperature for the British Isles of 37.1°C was recorded at Cheltenham, Silsoe (Bedfordshire) recording 34.9°C on the same date, with my own (unofficial) record of 35.2°C (95.5°F). The month was also very much sunnier than usual, and would also have been a very dry month if it were not for significant thunderstorms on the 25th (although the rainfall was localised even then).

September proved to be relatively normal in most respects, though an early frost occurred on the 26th, and rainfall was only half the average. October was a mild month in Bedfordshire, but for once relatively dry. November produced a good many rainy days, but even so the rainfall total for the month fell below average yet again. Frost occurred on a number of occasions throughout the month, but temperatures as a whole were very close to normal. December produced the first snowfall of winter, but the 2 to 3 cms of lying snow was in marked contrast to the 30cms or more which fell in Leicestershire and other Midland areas. The cold spell lasted some 12 days in all but was never

extreme, and for the remainder of the month temperatures were generally a little above normal. Thus a year which began and continued in quite a remarkable fashion, finally came to a typical and uneventful end.

The table of figures presented here for Silsoe is once again courtesy of AFRC Engineering, Wrest Park, Silsoe. However, some comment is called for. As forecast in the previous Journal (Williams 1989), the officially approved recording instruments at this site have now been replaced by an automatic weather station. Data is printed and processed on a monthly basis. As a consequence, it is no longer possible to assume the same degree of reliability as hitherto, and records which rely on human observation (such as the number of days of snow falling or lying) are no longer available for this location. There is currently, no officially approved weather station to the author's knowledge in Bedfordshire.

The weather station at Wrest Park, Silsoe was previously managed by Alan Hunter who retired in April 1990. His assistance and help in providing records and comment over many years is gratefully acknowledged. He has also passed into the author's safekeeping (on behalf of the Society), much of the original weather data recorded at Silsoe since it began recording in 1949. In due course, when this wealth of data has been analysed, it is hoped to report further on this important and valuable record of the weather of Bedfordshire.

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*Table 1. Summary of the weather of 1990 for IER, Silsoe, Bedfordshire*

	Mean Max °C	Mean Min °C	Highest Temp °C	Lowest Temp °C	Rainfall mm	Air Frost days	Ground Frost days
January	9.4	3.6	12.2	-1.5	61.2	3	12
February	10.7	4.6	17.1	-2.5	79.8	2	6
March	12.1	4.1	20.5	-4.3	15.2	4	15
April	12.9	2.0	21.1	-5.6	26.0	9	21
May	18.1	5.2	25.3	-1.0	2.8	1	14
June	17.8	8.9	24.9	4.1	35.2	0	3
July	23.5	10.2	30.9	2.7	19.6	0	1
August	24.5	12.5	34.9	7.2	71.6	0	0
September	18.0	8.2	24.8	-0.3	28.8	1	2
October	15.7	8.2	23.9	0.4	27.8	0	2
November	9.3	4.0	15.5	-3.2	38.2	4	10
December	6.4	1.8	12.3	-3.2	56.6	10	19
Year	14.9	6.2	34.9	-5.6	462.8	34	105

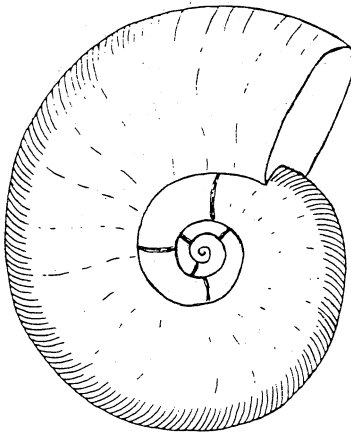
MIKE WILLIAMS

## GEOLOGY AND PALAEOLOGY

### Report of the Recorder

In the annual Report for 1989 (Smart, 1990a) it was mentioned that the results of Dr Kevin Page's work for Bedford Museum, to which he was attached to explore the geological potential of the Museum's collections and existing county exposures, would where appropriate be incorporated into future reports. This intention has been somewhat overtaken by events, the field visits made by him—the majority being to Jurassic rocks in the northern part of the county—coupled with his systematic revising and updating of previously published work on the county geology, has resulted in a monumental quantity of data that would fill this journal for the next twenty years at least. The comprehensive volumes of records will not be drawn upon for the annual report, therefore, unless fresh visits are made to his locations and additional information obtained. However, it can be recorded that one very interesting vertebrate discovery was made by Dr Page, a plesiosaur *Cryptocleidus* sp., from the Lower Oxford Clay of Quest Pit, near Stewartby, now in Bedford Museum.

The Recorder's own work on the Cretaceous beds in the south of the county was also interesting. The extensive Barton excavation described in 1989, the "borrow pit" near Barton Cutting, exposed Lower Chalk until landscaping was completed, but despite various deep diggings for pipe connections and manholes during 1990, no further specimens of the large ammonite *Parapuzosia* (*Austiniceras*) *austeni* recorded in last year's journal were discovered. An article on this single ammonite was published to coincide with the opening of the Barton by-pass (Smart, 1990b). Other fossils recorded from Barton included a disarticulated fish, now in Bedford Museum, and an assemblage of typical Lower Chalk molluscs including *Pycnodonte vesicularis* (Lamarck), *Inoceramus crippsi* Mantell and *Entolium orbiculare* (J. Sowerby). A whorl fragment of an ammonite, *Acanthoceras* sp., was also observed in-situ during excavation work in the chalk above the Totternhoe Stone but was not accessible. All the fossils recorded, with the exception of the *Parapuzosia* (*Austiniceras*) *austeni* previously referred to, were in generally poor condition due mainly to the heavy machinery employed, workable blocks of chalk being crushed beneath the caterpillar tracks of the excavators. Nevertheless, the work carried out over the greater part of 1989 and 1990 was not worthless, the Totternhoe Stone yielding one good specimen of the large ammonite *P. (A.) austeni* which was basically the reason behind the entire research. A photograph of the specimen appeared in Smart (1990b) and a diagram of the species showing surface detail is shown in Figure 1.



100mm

Figure 1. *Parapuzosia* (*Austiniceras*) *austeni* (Sharpe) from Barton. Diagrammatic. P.J. Smart Coll. 14920 M.

Three other chalk quarries were visited during the year, one near Whipsnade at Land Park Wood (TL 016 184) being visited twice due to the very overgrown condition of the pit. The first visit, made in March, was disappointing, only a single echinoid being discovered in the deepest section. A follow-up inspection accompanied by Rosemary Brind on 18th October was more fruitful, she obtaining two large echinoids from the upper part of the quarry, subsequently determined as *Micraster cortestudinarium* (Goldfuss); and the Recorder a specimen of the lamellibranch *Cremnoceramus* sp. and a small spherical sponge *Porosphaera globularis* (Phillips). The echinoids were the most important fossils found as *M. cortestudinarium* is a Zone fossil of the Upper Chalk. The two large specimens were typical of this Zone, but the single specimen found lower down in March was much smaller and was thought at first to be *Micraster leskei*. However, it was determined at the Natural History Museum as being an early form of *Micraster cortestudinarium* from the underlying *Sternotaxis plana* Zone, thus placing the quarry stratigraphically in the Upper Chalk (Chalk Rock) as shown in Figure 2.

		Zone			
Upper Chalk	-----	<i>Micraster coranguinum</i>	-----	Top rock	Land Park Wood Pit
	Coniacian	<i>Micraster cortestudinarium</i>	-----		
Middle Chalk	-----	<i>Sternotaxis plana</i>	-----	Chalk rock	
	Turonian	<i>T. lata</i>	-----	-----	

Figure 2. The zonal sub-divisions of the basal Upper Chalk

The Lower Chalk (Chalk Marl) at Arlesey Brick Works was paid nine visits during the year in the hope of obtaining fish remains, particularly selachii teeth, and several small isolated teeth were discovered, among them *Cretolamna appendiculata* (Agassiz) previously recorded. The underlying Cambridge Greensand and Upper Gault yielded nothing new. Unfortunately, the only exposure of the full sequence is a very old one, and any visiting parties or individual palaeontologists invariably utilise it. It is to be hoped that the quarry is extended over the next few years, and expose fresh beds for study.

Totternhoe Lime Works (SP 982 221) proved to be the most interesting Chalk exposure, but in this context could only be described as a "temporary section". The Lower Chalk above the Totternhoe Stone is not rich in fossils, and the main mass of the Totternhoe Stone is not normally excavated for lime burning due to its extreme toughness. A local stonemason, however, does work the stone for building, normally internal wall repairs in old buildings such as churches, as the weathering of the rock renders its rather unsuitable for external use. The Totternhoe Stone is approximately 6 metres in thickness, at the base of which, at Totternhoe, is a thin bed containing pebbles and phosphatic nodules, and various fossils including fish remains. In-situ fossils can be found in this nodule bed when it has been exposed during excavating, which is not frequent, as the stone is rarely cut to its full depth. This year, however, several large blocks of Totternhoe Stone had been excavated, some weighing up to ten tonnes, that formed the basal beds, and the nodule bed and underlying Chalk Marl were exposed.

The stratigraphical sequence of the Lower Chalk at Totternhoe is shown in Figure 3, but the section as illustrated is visible only on rare occasions in the part of the quarry where the rock is worked for building stone.

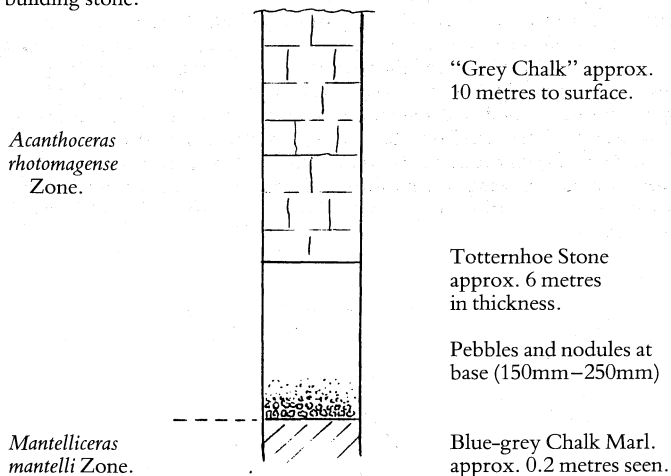
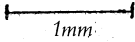
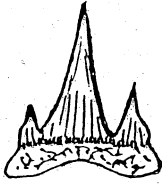


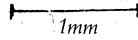
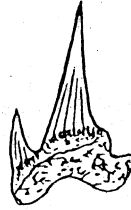
Figure 3. Stratigraphical sequence of Lower Chalk at Totternhoe

The basal bed, resting on the blue-grey Chalk Marl, consists of very hard dense limestone containing abundant pebbles and phosphatic nodules in size up to 30mm in diameter. This bed varies between 150mm and 250mm in thickness, above which the pebbles and nodules become progressively smaller until, at approximately one metre from the base of the Totternhoe Stone, pebbles and nodules are uncommon. It is the rock above the nodular bed that is used for building, being sawn on site into cubes or rectangular blocks weighing approximately a tonne each. The basal nodule bed is invariably discarded, and can be searched for fossils both before and after sawing. During repeated visits a number of small unidentifiable fish vertebrae were discovered in addition to teeth of *Cretolamna appendiculata* (Agassiz), *Scapanorhynchus subulatus* (Agassiz), *Scapanorhynchus raphiodon* (Agassiz), and occasional *Cretoxyrhina mantelli* (Agassiz). These teeth, along with other fossils, showed much evidence of rolling. Many of the teeth were without roots, a most unfortunate occurrence, as cusps without roots are difficult and often impossible to determine specifically. The extreme hardness of the nodular rock in an unweathered state caused serious difficulties in the attempted extraction of teeth where merely the cutting edges of the cusps were visible, and a different approach was necessary in order to recover such fragile fossils.

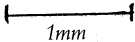
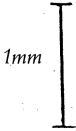
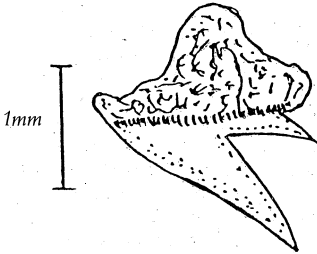
The technique adopted was developed at the Natural History Museum relatively recently. Calcareous rock is placed in a dilute solution of ethanoic acid which gradually dissolves the matrix without injury to teeth or bones, and this method was used by the Recorder for a period of some six months. Several problems arose, some remaining unsolved despite visits to the laboratory at the Natural History Museum but, in general, satisfactory results were achieved particularly with very small teeth invisible in-situ. It has been known for some years that the basal nodule bed of the Totternhoe Stone contained a fauna with many undescribed selachii species, but little work has been done in this direction due to the minute size of the teeth and the difficulties involved in extraction and preservation. Three hours work virtually every day from July to December, sieving the fine insoluble residue and searching through it with a x10 lens, resulted in some three hundred teeth less than 2mm in height and, of these, six specimens are particularly important being either extremely rare or unknown to science. These are shown in Figure 4, being drawn to scale using a stereoscopic microscope. I am greatly indebted to Mr John Turner, Curator of Bedford Museum, and Miss Rosemary Brind for permitting the use of the Museum's facilities while working with these



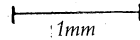
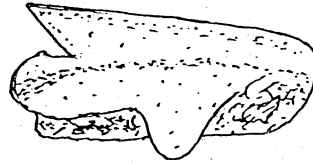
*Scyliorhinus* sp.  
PJS Coll. No. 14688 M.



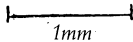
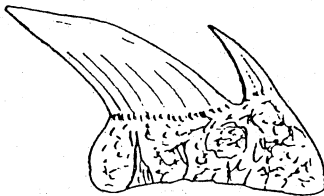
*Scyliorhinus dubius* (Woodward)  
PJS Coll. No. 14694 M.



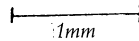
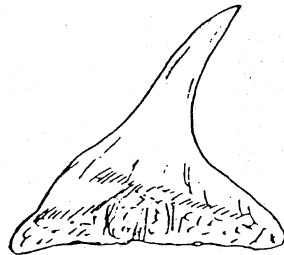
*Hexanchus* sp.  
PJS Coll. No. 14687 M.



*Squalus* sp.  
PJS Coll. No. 14686 M.



*Pseudoscaphnorhynchus* sp.  
PJS Coll. No. 14684 M.



*Squatina* sp.  
PJS Coll. No. 14685 M.

Figure 4. Salachian teeth from the Upper Cretaceous (Middle Cenomanian) Lower Chalk Totternhoe Stone basal nodule bed, *Acanthoceras rotomagense* Zone. Totternhoe Lime Works 1990. (SP982221). Recovered by ethanoic acid digestion method.

(P.J. Smart)

very small teeth, without which the illustration could not have been prepared. There is no doubt that the selachian fauna of the basal Totternhoe Stone merits a systematic study, and following discussions at the Natural History Museum regarding the importance of the work the Recorder will continue this research with, eventually, a paper clarifying the present unsatisfactory situation.

Despite the amount of time spent on the Totternhoe Stone, a number of visits were made to the Leighton Buzzard quarries as in previous years. No new Shenley Limestone exposures were noted, and the few small lenticles visible at Munday's Hill quarry yielded nothing not previously recorded. A number of selachian teeth were discovered in the Gault Clay at Munday's Hill, among them three large *Cretolamna appendiculata* (Agassiz) specimens and various other species including *Plicatolamna arcuata* (Woodward), *Protolamna macrorhiza* (Cope), *Scapanorhynchus subulatus* (Agassiz) and *Synechodus nitidus* Woodward. Chamberlain Barn quarry (SP 929 265) was visited several times as excavation work since 1988 had extended the working face eastwards towards Shenley Hill and re-exposed the junction beds between the Woburn Sands and Lower Gault. A number of ammonites were discovered in these gritty clays, among them *Beudanticeras newtoni* Casey, *Douvilleiceras mammillatum* (Schlotheim), *Beudanticeras arduennense* Breistroffer and *Hoplites maritimus* Owen. These, after determination by Dr Hugh Owen of the Natural History Museum, were added to the collection in the Bedford Museum. The Gault Clay above the junction bed was not as fossiliferous as that of Munday's Hill, but a most interesting discovery was a tooth of a Hexanchid shark, *Notorhynchus aptiensis* (Pictet), not previously recorded from Bedfordshire. Another tooth of this species was obtained from the Lower Gault at Billington Road pit (Pratt's Pit) during August, a notable discovery, although the species has been recorded from other regions and several specimens are in the collection of the Natural History Museum. Pratt's Pit (SP 930 241) is also undergoing expansion, so a careful watch will be kept on the various Gault exposures in the Leighton Buzzard area during the next few years, as relatively little expansion has taken place since the comprehensive review by Owen (1972). It was an extension of Munday's Hill Quarry that yielded the isolated tooth of the Hexanchid shark *Notidanodon lanceolatus* Woodward in 1989, only the second specimen discovered in the English Gault (Smart, 1990c).

### ACKNOWLEDGEMENTS

I should like to thank Mr John Turner, Curator of Bedford Museum, and Miss Rosemary Brind, Keeper of Natural History, for the use of the Museum's stereoscopic microscope; Dr Peter Forey, Dr Colin Patterson, Dr Hugh Owen and Miss Alison Longbottom of the Dept. of Palaeontology, The Natural History Museum, for their help in identifying many of the specimens and for allowing me access to the Museum collection, and Dr David Ward for literature on the Cretaceous Chondrichthyes. My sincere thanks also to the following for allowing me access to the various exposures:—

Messrs Joseph Arnold and Sons Ltd, Billington Road, Leighton Buzzard; Mr R.A. Bates and Mr Bruce Rogers, Totternhoe Lime and Stone Co. Ltd, Totternhoe; Mr R. T. Chappell, ARC Buckland Industrial Minerals, Heath and Reach, Leighton Buzzard; ECC Quarries Ltd, (George Garside), 39 Hockliffe Street, Leighton Buzzard; Mr J. McLuckie and Mr A. Price, Shanks and McEwan Ltd, Barton-le-Clay; Mr P. Norton, Butterley Brick Co. Arlesey; Mr F.R. Walpole and Mr R.J. Saunders, L.B. Silica Sand Ltd, Grovebury Road, Leighton Buzzard, and their staff who are always most helpful.

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 SMART, P.J. 1990b A large ammonite from Barton in the Clay Beds. *Mag.* **22**(175) 270–272  
 SMART, P.J. 1990c *Notidanodon lanceolatus* Woodward. A Lower Cretaceous Comb-toothed Shark from Shenley Hill, Leighton Buzzard *Bedf. Nat.* **44** 15–18

P.J. SMART

## MAMMALS

### Report of the Recorder

The purpose of recording is to map the distribution of species and monitor their status within the county. All records, by their nature, are casual unless the recording has been systematic or intensive. Any attempt to interpret or draw conclusions from them would be far from scientific and so I will limit my remarks on species to points of interest.

I would appeal for any records, however mundane they may appear, they could be another dot on the map. All records should include date, place and map reference. Without a map reference or tetrad reference the record cannot be plotted on a map and a valuable record has to be discarded. Some places when checked on a map cover more than one tetrad and therefore a full map reference is essential.

Many records are of animals found dead. Please qualify this at least to "road casualty" where applicable. There is a form of myxomatosis spreading through the British hare population known as the 'European Brown Hare syndrome'. It is a virus that affects those Brown Hares that have been weakened by exposure to herbicides and pesticides or possibly to toxins found in Oil-seed Rape plants. Any dead hares found in fields are now suspect.

Some of the death toll records reported this year have been:— Badger 12, Hedgehog 37, Rabbit 57, Hare 7 + 150 shot, Fox 8 and Mink 6.

**Hedgehog** *Erinaceus europaeus* Dozens found when cutting two acres of long grass at Fenlake Meadows, Bedford (TL 04U) (GD). Two or three seen at a time in a garden in Clifton (TL 13U) during daylight hours which is unusual. Last seen mid-December (MR).

**Mole** *Talpa europaea* Systematic recording by two members, Paul Madgett (56 records) Betty Clutton (34 records).

**Common Shrew** *Sorex araneus* Two live trapped on Barton Hills had white ear tufts (DR).

**Water Shrew** *Neomys fodiens* One record this year and that was unfortunately dead (TL 04V) (JC).

**Rabbit** *Oryctolagus cuniculus* Disused railway near Turvey 20+ seen (SP 95F) and 20+ seen (SP 95K) (RD). Monitoring the dead on the north and south bound carriageways of the new Barton by-pass: August 13th—4 north and 3 south; August 21st—3 north and 3 south; November 3rd—3 north 0 south; November 10th—2 north 0 south (DR).

**Brown Hare** *Lepus capensis* 25+ seen in a field next to Chicksands Wood (TL 14A) on February 23rd (DP).

**Dormouse** *Muscardinus avellanarius* There was a reported record from Shillington Bury (TL 13H). On checking the record, the animal had been found in a box file in an outbuilding in November 1988. The description given to me by the finder fitted the species.

**Fat Dormouse** *Glis glis* Another year with no positive record except signs of apples eaten and droppings at Whipsnade Zoo (JL).

**Water Vole** *Arvicola terrestris* Only four reports this year and two of them were from the River Lea in Luton. I watched a family of five on the R. Lea being transferred from one home to another, a distance of approx. 27.5m. On the fifth transfer there was an attack by a Brown Rat but no lives were lost.

**Yellow-necked Mouse** *Apodemus flavicollis* Joan Childs live trapped them at The Lodge, Sandy (TL 14Y). This species must be more common in the county than records would indicate. Nationally Bedfordshire appears to be on the edge of the range of this species.

**Brown Rat** *Rattus norvegicus* There have been a number of records from the River Lea, Luton. Luton Council have been trying to reduce numbers.

**Grey Squirrel** *Sciurus carolinensis* The melanistic form of the Grey Squirrel or 'Black' squirrel was released in Woburn Park at the beginning of the century. Its present distribution covers Bedfordshire, Hertfordshire, part of Buckinghamshire and part of Cambridgeshire. The extent of its distribution in Bedfordshire is not known. Any records will be gratefully received. 'Black' Squirrel records for 1990: Woburn Park (SP 93L) (TD PT MP), Milton Bryan (SP 93Q) (BN), Eversholt (SP 93W) (LR), nr. Eversholt (SP 93X) (BN), Whipsnade (TL 01D) (CT), Whipsnade (TL 01E) (JK-G), nr. Steppingley (TL 03C) (JA), Clifton (TL 13U) (MR), Fairfield Hospital (TL 23C) (DR).

**Fox** *Vulpes vulpes* One seen being taunted by Magpies and Carrion Crows (RD).

**Badger** *Meles meles* There continues to be regular checking of Badger setts for activity.



- Mink** *Mustela vison* The present distribution of this species has been confined, except for two records, to the River Great Ouse. This year there has been one record from Clophill (TL 03Z) (PS) and one from Leighton Buzzard (SP 92C) (PM). Records are required from the River Ivel and the River Flit. Early in October a young Mink was regularly visiting fishermen on the River Great Ouse at Priory Park and eating their maggots and sandwiches (DK). Mink have been seen regularly around Priory Park Lake from August—December (GD).
- Stoat** *M. erminea* A number have been seen in Priory Country Park (TL 04U) (GD). A family of seven or eight was seen on Coopers Hill (TL 03G) (BC). Four were counted on a gamekeeper's gibbet (TL 03S) (Betty Clutton).
- Weasel** *M. nivalis* Several have been seen in Priory Country Park (TL 04U) (GD). "Swearing like mad—a sort of harsh chattering scold", this was the sound made by a Weasel after being cornered by cats belonging to Barry Nightingale. Three seen crossing the road together between Upper and Lower Sundon (TL 02N) (BN). Two seen playing and chasing on the bank of the River Ivel (TL 14U) (JC).
- Chinese Water Deer** *Hydropotes inermis* Three seen in a field at Tingrith (TL 03A) (SC).
- Fallow Deer** *Dama dama* Three does seen in Long Wood, Studham (TL 01H) (MR).
- Muntjac Deer** *Muntiacus reevesi* A number of members have seen multiple sightings. Six in a field on edge of wood at Moneypot Hill (SP 93Y) (SC). Five in the field below Sharpenhoe Clappers seen from the Barton by-pass travelling north (TL 02U) (BR).

#### ACKNOWLEDGEMENTS

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DEREK RANDS

### MAMMALS—BATS

#### Report of the Recorders

Bats were recorded during 1990 in a total of 98 tetrads (2km x 2km squares). The distribution of these tetrads is spread out over the whole county reflecting an approximately even recording effort. The first bat recorded was on the 9 January in Cotton End, where it was seen and heard echolocating by Mark Boyd. A second January record was received from Nick Hammond who saw a bat flying at dawn on the 15th at Sandy. The last bat records were on 16 December. The known hibernation sites of Bedfordshire were checked by Tony Aldhous, David Anderson and Joan Childs (who all hold NCC winter roost visiting licences). Four sites were checked producing eight bats of three species; one Brown Long-eared Bat, four Natterer's Bat and three Daubenton's Bat. The last flying bat records were both in churches on 16 December. One, in Bromham Church, was recorded by Peter Holden at 4.15pm and was probably a Pipistrelle as there is a confirmed roost of this species here. The second was seen flying around Willington Church by Lynne Giddings at 6.30pm. At this time of year, churches are often heated for services for the first time in winter and the bats wake from hibernation and fly around.

**Daubenton's Bat** *Myotis daubentonii* The only currently known Bedfordshire maternity roost was discovered in the grounds of The Lodge at Sandy on 10 August and was confirmed by a bat being caught on emergence for identification by Tony Aldhous (NCC licence holder). The tree is an oak with twin holes, both of which have dark stains below them. The only other previously recorded Daubenton's roost in Bedfordshire, at Stockgrove Country Park, was not used by this species during 1990. A small group of Long-eared Bats were, however, discovered inside on one evening. Two hibernation sites for Daubenton's were recorded during December in Silsoe and Woburn ice houses, but were represented by only two bats and one bat respectively.

All other records of Daubenton's are of unconfirmed flight sightings over water: lakes, gravel pits, rivers and canals. In the main, small numbers were recorded but Stockgrove Country Park was a good site with a count of 40 bats, Priory Country Park with a count of 30 and the River Ivel at Tempsford with a count of 20. The records show an approximately even distribution across the county.

**Whiskered/Brandt's Bat** *M. mystacinus/brandtii* A roost for one of these species was first found in 1989 in Old Warden Tunnel. Since then identification has not been reconfirmed, although a visit on 30 April by Tony Aldhous, David Anderson, Joan Childs and Nancy Dawson produced flying bats which appeared to be Whiskered/Brandt's from bat detector sounds. The tunnel contains many cracks and crevices which could be used by roosting bats and in 1988 bat chattering was heard from one of these cracks but no bats emerged while the observers were present. In 1989 a live bat was found roosting out in the open during a visit by Tony Aldhous, Joan Childs and John Green allowing identification to be made. The bats appear to emerge mostly at the south end of the tunnel, but fly through the whole length.

**Natterer's Bat** *M. nattereri* Two confirmed roosts were recorded during 1990, one in Westoning Church porch, a traditional site, and one new one in an external wooden ceiling at The Lodge, Sandy, where identification was confirmed by the catching of a bat on emergence at dusk by Joan Childs (NCC licence holder).

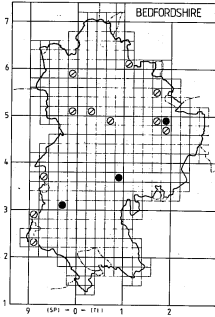
Two ice houses held hibernating bats when visited on 16 December, these were Silsoe with two Natterer's and Woburn with one. The identification was not confirmed at the other sites—Bushmead Priory (from droppings collected by Rosemary Brind) and from sighting and bat detector records from Shelton Church. Other known roosts of Natterer's Bats, all in churches, were not visited during 1990. The roost at Sandy is the only known summer roost in Bedfordshire that is not in a church.

**Pipistrelle Bat** *Pipistrellus pipistrellus* By far the commonest bat in Bedfordshire, most records being received from roost owners either directly or via the Nature Conservancy Council. Because they roost mostly in modern buildings this species comes into contact with the public more than any other. Records of Pipistrelles were evenly distributed across the county. Counts were received from six maternity roosts in modern houses and the numbers emerging were: 61, 82, 97, 123, 220, 260. John Adams (maximum count 123) monitored his roost regularly during the summer. As well as modern houses, where the bats usually roost under hanging tiles or under the eaves in the box formed by the barge and soffit boards, Pipistrelles were also found in a variety of other roost sites. These included older houses, churches, schools, in the gap between two Portacabin sections, an old barn and under the ridge tiles of an outbuilding. Bats are rarely recorded roosting in thatched cottages and only one has been recorded in Bedfordshire in the past, this being a Long-eared roost in Felmersham. In 1990 the first Pipistrelle roost in a thatched cottage was recorded on 12 September in Flitton, where the bats were squeezing under the thatch.

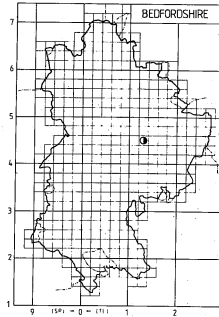
Bat records were also received as a result of grounded, injured or dead bats being found. These were found in a variety of places—usually outside and often under a roost site. Occasionally a grounded or dead bat is found in a church where a roost exists. Sometimes a bat finds its way into a building and records were received when bats got into offices, houses and schools and one found its way into Bedford Station! Many of these will have been assisted by local cats which catch them and move them indoors and let them go uninjured. However, many cats badly injure or kill bats and many were received in this way. One dead bat was even found in a wellington boot. In April, a roosting bat was found behind a window frame when replacement windows were put into a house, and was released unharmed. A number of juvenile bats were also returned to roost sites during the year. A number of bats are unfortunately too badly injured to be returned to the wild and are taken into captivity. During 1990, 23 injured Pipistrelles were received by Joan Childs and Tony Aldhous of which three could be returned to the wild. Two of these injured, captive bats gave birth, one still-born and one born live.

On 23 June at a moth trapping session held in Maulden Wood many Pipistrelles were attracted to feed on green oak tortrix moths which came in large numbers to the light. As each insect was caught by a bat, the wings of the moth came falling out of the sky, allowing identification of the bat's prey.

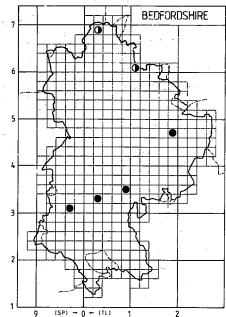
In addition to the Pipistrelle records, a number of unidentified bat records were received during 1990 (12 roosts, 14 flight records). It is likely that many of these refer to Pipistrelles.



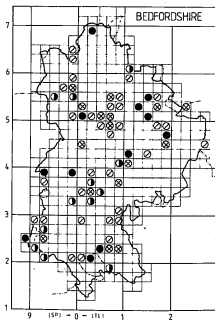
*Daubenton's Bat*  
*Myotis daubentonii*



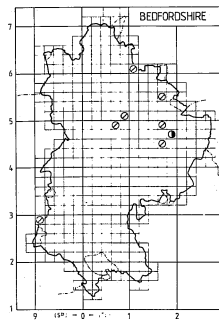
*Whiskered/Brandt's Bat*  
*Myotis mystacinus/brandtii*



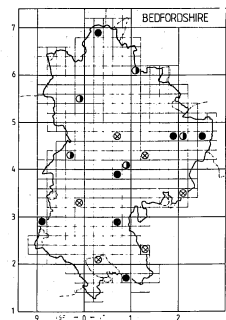
*Natterer's Bat*  
*Myotis Nattereri*



*Pipistrelle Bat*  
*Pipistrellus pipistrellus*



*Noctule Bat*  
*Nyctalus noctula*



*Brown Long-eared Bat*  
*Plecotus auritus*

- *Confirmed roost*
- *Unconfirmed roost*
- ⊗ *Confirmed bat*
- ⊗ *Unconfirmed bat*

**Noctule Bat** *Nyctalus noctula* The only Noctule seen roosting was a single animal emerging from an old woodpecker hole in a Scots pine at The Lodge, Sandy. Records for roosting Noctules have only been received from this one site in the county and this is a traditional roost. All other records of Noctules have been unconfirmed sightings only and usually in ones or twos. The highest count was at Priory Country Park where Graham Dennis recorded nine together. Five were seen at Sandy and four together at Stockgrove Country Park, both by Joan Childs. In all cases the Noctules were seen flying over or near water.

**Brown Long-eared Bat** *Plecotus auritus* The Brown Long-eared Bat is Bedfordshire's second commonest bat with a total of 18 tetrad records. The six summer roost sites were one tree, one barn, two churches, one old house and one old hunters lodge now used as a print room. The largest of these roosts was probably the house roost in Pepperstock. Approximately 30 bats were seen in two clusters in the roof space and flying around. The roof space was continuous over two houses and had been sealed for the 100 years since the house was built. When the attic was opened up, both households were initially horrified at finding bats but after seeing one of their bats in the hand (caught by Joan Childs, an NCC licence holder) they were happy to live with the roost. One bat was found hibernating on 16 December in the entrance of Barton lime kiln tunnel.

Eight Brown Long-eared Bats were received during the year by Joan Childs and Tony Aldhous. Two of these were found dead, one from Wrestlingworth Church and one from Eversholt. Four were found sick and later died, one from the print room roost at The Lodge, Sandy, one caught by a cat at Southill, one found in a Dunstable factory and one that had been 'swimming' in a garden swimming pool. Two were found roosting out in the open, one on a school in Bedford and one on a garden gate in Luton. Since they were both uninjured, they were immediately released where found.

#### ACKNOWLEDGEMENTS

The following people have contributed bat records and information during the year and to them we are extremely grateful: J. Adams, A. Aldhous, D. Allen, D. Anderson, M. Boyd, R. Brind, B. Champkin, J. Childs, P. Clarke, B. Clutton, N. Cole, I. Davison, R. Dazely, G. Dennis, L. Giddings, N. Hammond, P. Holden, P. Hyman, L. King, P. Madgett, D. Miller, C. Ostler, D. Parsons, M. Rowland, P. Sheaf, A. Thorpe, P. Trodd, A. Warren. Also many roost owners have reported bats and handed in sick animals.

JOAN CHILDS and TONY ALDHOUS

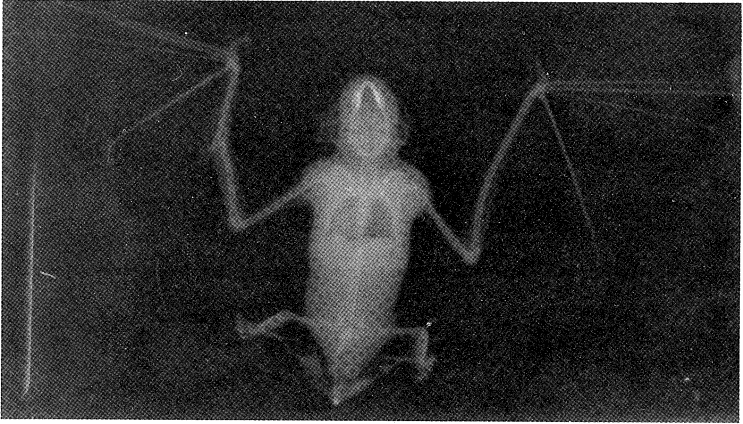
### SURGERY PERFORMED ON A NOCTULE BAT IN BEDFORDSHIRE

by Joan Childs and Tony Aldhous

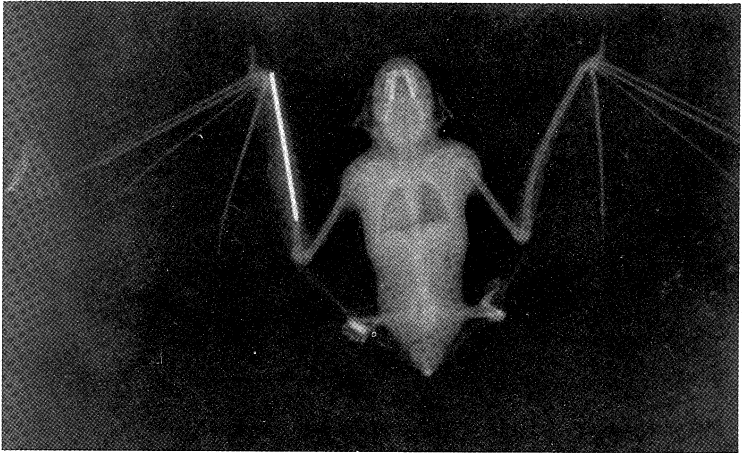
On 29 September 1989, a male Noctule bat *Nyctalus noctula* was found injured at Luton Airport, Bedfordshire (TL115214) and was passed to a vet in Luton by the finder. The bat was X-rayed (Figure 1) while anaesthetised and found to have a compound fracture of the left radius. The bone was splinted and then, on 30 September, pinned under anaesthetic. While the bat was unconscious, a second X-ray (Figure 2) was made. The wing remained swollen, inflamed and infected and on 17 October the wing was amputated in what was the bat's third operation.

Over a year later the Noctule is still living a very healthy life in captivity. Unlike injured Pipistrelles which we believe are best kept in captivity in a colony with other injured bats of the same species and handled as little as possible, the Noctule appears to enjoy human company. When handled and content, the Noctule purrs like a cat, as has been found in other bats of this species and some of the other large species of British bats.

We find injured captive bats to be invaluable in changing attitudes towards these mammals: Pipistrelles because they are so small and the Noctule because few can resist a purring bat which is large enough for even children to stroke.



*Figure 1. X-ray of Noctule with compound fracture*



*Figure 2. X-ray of Noctule with pinned forearm*

## REPTILES AND AMPHIBIANS

### Report of the Recorder

1990 was "The Year of the Midwife Toad" for me, as I seemed to be involved with projects concerning this species for most of the year. It all started in spring with a telephone call from Paul Johnson, an ecologist now living in Norfolk. He had wanted to write an article about Midwife Toads for some time having spent many hours observing them whilst a student at Bedford College. I provided him with some information about their history in the town and we discussed the detail of the article, agreeing that the locations of sites should not be revealed.

Paul subsequently wrote the article and the proof was read by a member of the BBC's Natural History Unit at Bristol. He considered that the story of Bedford's Midwife Toads would make an interesting item for Radio 4's Natural History Programme. We agreed to take part in the programme and asked Henry Key to join us as we felt he knew much more of their background than either of us did.

To coincide with the broadcast of this programme, Rosemary Brind and I set up a mini-exhibition at Bedford Museum which included some publicity for the BNHS and an appeal for records of Midwife Toad sites.

The Radio 4 programme sparked off more interest by the media and Paul and I were invited to do a "3 minute slot" for Anglia TV's *About Anglia*. Filming this actually took about 4 hours! Following this I did an interview on BBC Radio Bedfordshire. Each broadcast contained an appeal for records of Midwife Toads and proved very successful as we received about 30 records. A few were of sites which we already knew and three were outside the county. One of these was known to have been started from a garden colony from Bedford.

In November a group of hardy volunteers undertook further pond clearance work on "The Moat". A large skip-full of reed mace, overhanging branches, coca-cola tins and a supermarket trolley were removed. The Midwife Toad colony at this site is thriving and there are still good numbers of Great Crested Newts breeding here and also some Smooth Newts.

The scientific world also became very interested in Midwife Toads as a result of all the publicity. Until last year it had been widely believed that only one small colony existed in Bedford and most herpetologists felt this was quite insignificant. The realisation that numerous colonies existed caused much excitement. Two interesting research projects have been proposed and I was invited to give a talk on the history of the Midwife Toad in Bedford at the 1990 Herpetofauna Recorder's Seminar.

As far as the other amphibians and reptiles are concerned, I spent many hours working with Rosemary Brind at Bedford Museum putting my records onto the computer. Most of the records which I have received since I became Recorder are now on file although we had to omit some of the vague ones which only give a tetrad for the species with no note of the site. In future could all records either have a six figure grid reference or a site name so that they can be included in the site register.

I had hoped for a few more reptile records as the hot weather usually encourages them to bask. No Adder records were received but Grass Snakes were seen quite often. Notably at Oakley, Ravensden, Everton, Riseley and Mowsbury Hill. Common Lizards were also seen occasionally.

A pond at Turvey which had been a good Great Crested Newt site, but which had become very shallow and frequently dried out, was dredged out and deepened in the hope that the newts will return to breed, there. They are known to exist in the close vicinity.

Biddenham Village pond which has a good mixed population of amphibians was in danger of drying out during the summer but residents managed to obtain permission to refill the pond from the river which runs nearby. This pond is now suitably full for spawning amphibians.

My thanks go to all those who sent in records and to Rosemary Brind for her help with the Midwife Toad projects.

HELEN MUIR-HOWIE

## FISH Report of the Recorder

Since taking over fish recording in 1987, in addition to my own records, only two other people have submitted records. As most of my fishing is done outside the county not very many records appear in any one year. This is the reason why there has been a gap of three years since the last report.

I am sure that there are many new sites that have still to be covered, because of their localities, but only those in the know are aware of their whereabouts.

Barbel has become more common in the northern stretches of the River Great Ouse. They appear to be breeding in large numbers and spreading further southwards along this river system. I have also recorded them from the River Ivel in the Biggleswade-Sandy section. Whether these are a few stray fish or have been introduced by keen fishermen is not known, but they are a much sought after sport fish.

In the three years of recording I and my supporters have been able to add 17 new tetrad records. These are for the following species.

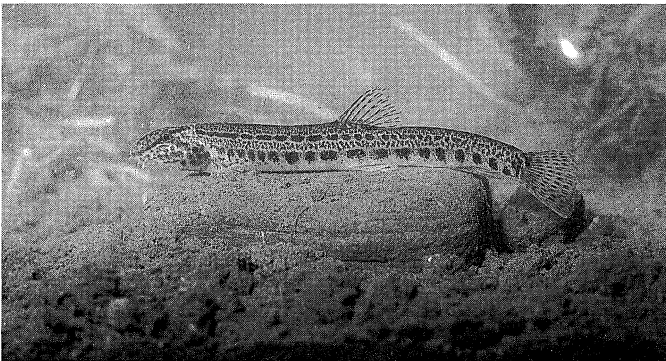
Roach	Eel
Dace	Bullhead (3)
Bleak	3-spined stickleback (3)
Minnow	Spined Loach
Barbel	Stone Loach
Common Carp (3)	

The main problems with fish recording are that it is first necessary to catch the fish and this depends on whether the fish is present and takes the bait. The smaller species are normally recorded by those who are pond dipping for other creatures. Sample netting of complete river systems is not practical and is usually only done by the local river authorities. Unfortunately, I have been unable to obtain records from the Anglian Water Authority.

There remain many of the clay and gravel pits unsurveyed, not to mention water storage reservoirs that have increased in number over the years. Many of these are now controlled by private fishing clubs or syndicates and access is difficult. It is not always possible to obtain reliable records from those who fish in these waters.

My thanks go to R. Brind for her pond dipping activities, R. Revels for his valuable record of Spined Loach, and to my children for their fishing efforts.

ALISTAIR MUIR-HOWIE



*Spined Loach* *Cobitis taenia*

(Photo: Richard Revels)

## SLUGS AND SNAILS Report of the Recorder

All molluscs require moisture in order to survive, let alone flourish. 1989 was hot and humid but 1990 was hot and dry. It became increasingly difficult to find any molluscs as they went deep into hiding in an effort to conserve moisture. Many snails aestivate in adverse conditions by sealing themselves into their shells by means of a thin membrane across the mouth of the shell. Slugs have no shells into which to retreat and need to find shelter under stones, bark, rubbish, etc.

In the Journal for 1982 (*Bedf. Nat.* 1983 37 8) I reported a decline in numbers of the slug *Arion fasciatus*. This species very slowly began to recover but 1989 and 1990 will have depleted its numbers again.

Gardens provide many varied habitats for molluscs and most are well supplied with water by their gardeners. However, 1989 and 1990 saw hosepipe bans throughout both summers. Luton and the south of the county were amongst the first in Britain to suffer as they fall within the River Lea Water Authority. They banned the use of hosepipes long before the rest of Bedfordshire which comes under Anglian Water Authority.

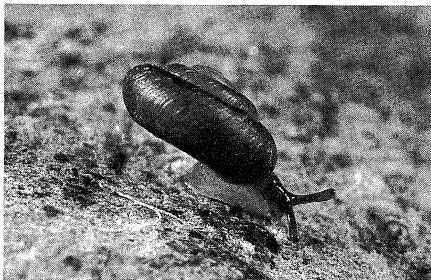
Garden centres, however, continue to flourish and proliferate and appear to be always well supplied with water. They are rapidly becoming important refuges for some invertebrates which need damp conditions. Many interesting records can be obtained by a quiet investigation of the undersides of plant pots. Not all records from garden centres are of rare or alien species but it is always a pleasure to find the unusual. Mr D. Guntrip found a second site in the county for the slug *Arion flagellus* at the Poplars Garden Centre, Toddington on 15 September 1990. *Limax valentianus* was also present, this is an alien species which used to be found only in hothouses in Britain. It has now been found in several outdoor localities in Bedfordshire. This slug and the small snail *Toltecia pusilla* are seen quite regularly at the Co-op Garden Centre, Manor Road, Luton. This site has produced the first live specimen of *Zonitoides arboreus* living outside in Bedfordshire and thus constitutes a new vice county record.

At the Shuttleworth One-Day Course 1990 there was a course on *Slugs and Snails* with Mr D. Guntrip as the tutor. Of the three members who attended this course I can report that Miss Jean Brown and Mr Graham Bellamy have both submitted garden records and Mr Paul Madgett has sent many very useful records from flood debris in the Leighton Buzzard area.

Miss Joan Childs collected flood debris from the River Ivel banks and has contributed to the knowledge of several seldom visited tetrads. Miss Betty Clutton and Mr and Mrs G. Hooper have been reliable contributors over many years. Mr Steve Cham brought in a bag of water weed from Sundon Quarry. Although this produced only one species of snail, *Lymnaea peregra*, the offering was much appreciated. I wish every member of the Society would do the same. Every record counts.

My thanks to everyone who contributed in any way, either with specimens or permission to visit gardens.

E. BERYL RANDS



*Toltecia pusilla*.  
A small snail (2mm across) found in  
garden centres

(Photo: Derek Rands)



## GRASSHOPPERS AND CRICKETS (Orthoptera/Saltatoria) Report of the Recorder

The hot summer of 1990 brought its reward for the first county record of Roesel's Bush-cricket *Mettioptera roesellii* in the county on July 28th, followed by another record on August 4th and another on August 31st. The first two records were found by S. Cham at Sundon Quarry (TL 042267) and near Harlington (TL 050314) respectively. The third record was found by G. Bellamy near Sharpenhoe Clappers car park (TL 066296). A further record on August 5th came from behind Galley Hill on the Icknield Way (TL 099276) but this was just over the county boundary in Hertfordshire (pers. comm. J. Wigeon, Herts. Orthoptera Recorder).

This species was first known from the Thames area. In recent years there has been a rapid expansion of its range into Hertfordshire. It was expected that in time the species would be found in Bedfordshire.

All the present records were located by their song which means that all the specimens were male. They were also all macropterous *f. diluta* i.e. they all had fully developed wings. This form can occur in high numbers in very hot summers. This means that unless females were also present and laid eggs the species has not yet become fully established.

The second bonus of the hot summer was the notable expansion of the distribution of the House Cricket *Acheta domesticus*. This species can only survive under artificially heated conditions. The hot weather allowed it to survive away from these conditions and, being a good flyer, it migrated far and wide. The singing of the males is a very distinct sound and this helped in locating the sites. The species was recorded in 28 tetrads during the year. Further information and map is given on p. 33 in this Journal.

The most important discovery during 1990 was the expansion of the distribution by tetrad of the Lesser Marsh Grasshopper *Chorthippus albomarginatus*. This species was first found in the county in 1976. 93 new tetrads were found in 1990 bringing the present total of tetrad records to 147.

These records have changed the status of grasshoppers in this county. The Field Grasshopper *C. brunneus* is the most common with 195 tetrads recorded, followed by the Lesser Marsh Grasshopper *C. albomarginatus* with 147 tetrads having displaced the Meadow Grasshopper *C. parallelus* with 126 tetrads into third place. More detailed information and maps is given on p. 32 in this Journal.

### ACKNOWLEDGEMENTS

I would like to thank the following for their House Cricket records:- Miss J. Childs, Miss B. Clutten, Mrs E.B. Rands, V. Arnold, J. Ashby, C. Banks, G. Bellamy, J. Burchmore, Mr. Castleman, S. Cham, G. Dennis, T. Boelly, P. Irving, D. Manning, A. Rhodes, P. Soper, C. Tack, P. Trodd, I would further like to thank the following for other Orthoptera records:- G. Bellamy, Miss R. Brind, S. Cham, J. Comont, G. Dennis, B.S. Nau, Mrs E.B. Rands and Mrs M. Sheridan.

DEREK RANDS

### LESSER MARSH GRASSHOPPER (*CHORTHIPPUS ALBOMAGINATUS*) by D.G. Rands

This species was first recorded in the county by the author in 1976. A methodical search of the county in 1977 produced a further 37 tetrad records. A distribution map of these records was published in the *Bedf. Nat.* (1978) 32 29.

The intervening years produced a few more tetrad records until July 1990 when the species was being found regularly on roadside verges. This resulted in a re-survey of the county to establish whether the status of this grasshopper had changed. An arbitrary boundary line was drawn around the known records as shown on the 1977 distribution map. Every tetrad without records, within this boundary line, was searched to determine whether it was present or absent. The search then

continued outside the boundary line, working away from it, until the presence of specimens ceased. The result was 93 new tetrad records for 1990.

With reference to the distribution map, Figure 1, the open circles are the 1977 records. The combination of the open and black dots are the present known distribution of the species in Bedfordshire.

The national distribution of the species is mainly coastal, south and east of a line between the Humber and Severn Estuaries. It has also spread from the Wash through Cambridgeshire into Bedfordshire, entering the county from the north east. Surprisingly the spread in the county in the intervening thirteen years (1977-1990) has been virtually stationary in a westerly and southerly direction. Most of the new records have been in the north east of the county indicating that the movement into the county could be continuing.

Figure 2 and Figure 3 are the present distribution maps for the Field Grasshopper *C. brunneus* and the Meadow Grasshopper *C. parallelus* respectively. Comparing these two maps with map Figure 1, the distribution of the Lesser Marsh Grasshopper is greater in north east of the county than the other two grasshoppers. What is even more significant

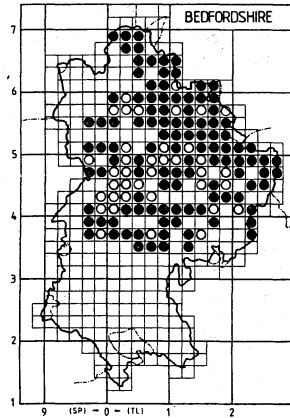


Figure 1. Lesser Marsh Grasshopper *Chorthippus albomarginatus*. Distribution 1976-1990

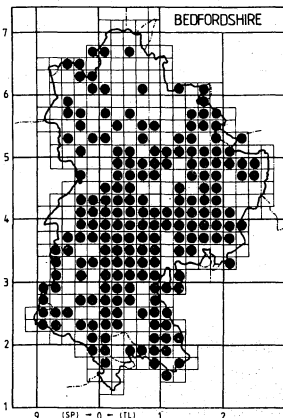


Figure 2. Field Grasshopper *Chorthippus brunneus*

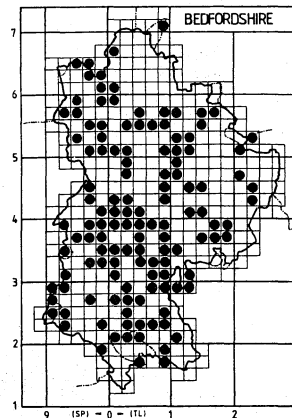


Figure 3. Meadow Grasshopper *Chorthippus parallelus*

with this survey is that the Lesser Marsh Grasshopper is now the second most common species in the county, Field Grasshopper (195 tetrads), Lesser Marsh Grasshopper (147 tetrads) and Meadow Grasshopper (126 tetrads).

Only in three cases were all three species found on the same site. The majority of the records for the Lesser Marsh Grasshopper were from roadside verges. Experience has shown that many of these verges were not the type to support grasshoppers.

The above observations pose several questions, none of which can be answered without further field work in future years:-

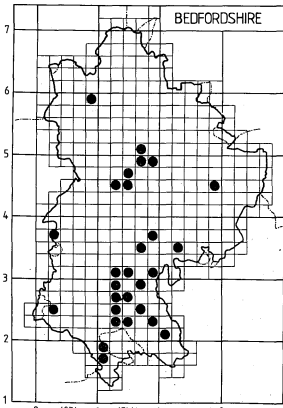
- a) When a species expands its range suddenly does it choose its habitat indiscriminately?
- b) Does it remain in these temporary habitats permanently or does it seek more suitable ones as it becomes established?
- c) Does it die out as quickly as it arrived?
- d) Was the hot summer responsible for the rapid expansion?

## HOUSE CRICKET (*ACHETA DOMESTICUS*)

by D.G. Rands

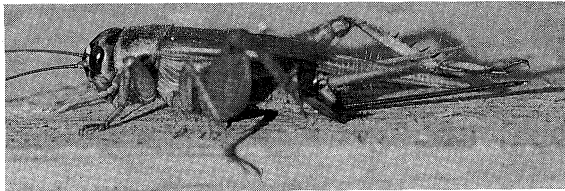
This species is part of our alien orthopteran fauna, having originated in North Africa and the Middle East. In this country its survival is dependant on an indoor, heated environment such as hospitals, hotels, factories, bakeries etc. Another common niche is the private and municipal refuse tips that generate heat by fermentation of the organic matter which is usually part of the domestic waste.

The hot summer of 1990 was sufficient for this cricket to survive out of doors and as it is a good flier it dispersed over a wide area. Its lifestyle is nocturnal and the stridulation, or singing, by the males made it easy to locate.



*House Cricket Acheta domesticus*  
Records for 1990

Address: 51 Wychwood Avenue, Luton LU2 7HT



*Female House Cricket Acheta domesticus*

(Photo: Derek Rands)

I would like to thank all those members who sent me records and made it possible to publish this map for 1990.

The following are artificially heated environments or main sources from which dispersal was possible when the temperature became high enough:- Whipsnade Zoo (TL 01D), Sundon Refuse Tip (TL02J), Luton Swimming Baths (TL 02W), a Luton Bakery (TL 02W), Barton Refuse Tip (TL 02U) and Elstow Refuse Tip (TL 04N).

With reference to the map, Leighton Buzzard (SP 92H), Sharnbrook (SP 95Z) and Biggleswade (TL 14X) are isolated records and are not believed to be the main sources. This means it must have been possible to have obtained other records from these areas. The position of these sites relative to each other can be seen by consulting the tetrad map of Bedfordshire on the back cover of this Journal.

These records, except for the main source records, are only viable for the year in which they were recorded. The individuals die in the same year in which they were born and only eggs remain for the following year. Any eggs which were laid away from the main source will also not survive.

## LACEWING FLIES (Neuroptera) Report of the Recorder

One species has been added to the list bringing the total to 35 but very few other records have been made. I have listed most of them since each brings us nearer to being able to produce a preliminary atlas. I have maintained the genus *Chrysopa* in its original sense but should point out that Brooks and Barnard published a generic review of the world's green lacewings in 1990; as a result the British species are now ranged in six genera. These will be introduced in a future report.

*Coniopteryx parthenia* Navás & Marcet, Woburn Park, Dean Hills, on yew, a ♀ probably this species, 17.6.90, C. Plant.

*Micromus variegatus* (Fabr.) Cockayne Hatley, Rothamsted Insect Survey, Site 336, TL 253494, light trap, one 1.7.88, I. Woiwod; Luton, Moulton Rise, in house, 8.87, D. Guntrip.

*M. paganus* (L.). As last, site 336, two, 6.88, I. Woiwod.

*Hemerobius contumax* Tjeder. As last, site 336, one ♀, 9.88, I. Woiwod. New record for county, confirmed by C. Plant.

*H. micans* Oliv. As last, site 336, 8.88, I. Woiwod.

*Wesmaelius subnebulosus* (Stephens) As last, site 336, one, 8.88, I. Woiwod; Biggleswade, London Road, MW moth trap, ♂ & ♀, 8.89, R. Revels.

*Chrysopa flava* (Scop.). Woburn Park, Dean Hills, on *Quercus petraea*, 17.6.90, C. Plant.

*C. ciliata* Wesmael. Kings Wood, Heath and Reach, larvae on oak, 25.9.87, B. Verdcourt (confirmed by P. C. Barnard).

*C. carnea* Stephens. As before, site 336, one, 8.88, I. Woiwod; Luton, Moulton Rise, in house, 15.11.87, D. Guntrip.

*C. perla* (L.). Marston Thrift, area 2a, very damp area near car park, 17.7.88, B. Verdcourt; Potton Wood, 15.6.43, B. Verdcourt (omitted from my list in *Bedf. Nat.* 33 59).

It may be worthwhile to report individual localities for *Sialis lutaria* L., all pre-1945 — Fancott Pond (long ago destroyed), East Hyde, 29.5.43 and Flitwick Moor, 6.6.43.

B. VERDCOURT

## DOLICHOVESPULA MEDIA (RETZIUS) (HYMENOPTERA, VESPIDAE) IN BEDFORDSHIRE by Rosemary Brind

*D. media* is a large European and Asian wasp which was first recorded in Britain in Friston Forest, East Sussex in August 1982. Since then the wasp has also been found in Surrey and East Kent, with nests found on a flowering quince bush in East Sussex in July 1987 and in a pear tree in East Kent in September 1987 (Else 1989). In 1990 *D. media* was also found in Essex and West Sussex.

On 1st August 1990 wasps in a nest in a Shefford garden (TL13) were exterminated by pest control personnel. The aerial nest, suspended from the branches of an apple tree, was cut away and brought to Bedford Museum. The nest is approximately 180mm × 250mm in size with the entrance hole just offset from a slightly upturned base. The sheets of wasp paper almost circle the nest completely, as opposed to the nest being made of many small shell-like plates. The wasps preserved with the nest, workers, had distinctive black and yellow bands and this, combined with other features, suggested that they were *D. media*. Dr George Else, Natural History Museum, confirmed the identification and the nest and wasps have now been incorporated into the Bedford Museum collections as voucher specimens for this first County record.

I am very grateful to Mrs Millar, Shefford for donating the nest to the Museum and to Dr George Else, Natural History Museum for confirming the identification.

ELSE, G.R. 1989 *Entomologist's, mon. Mag.* 125 106

Address: Keeper of Natural History, Bedford Museum, Castle Lane, Bedford MK40 3XD.

## BIRDS

### Report of the Recorder

#### INTRODUCTION

This years ornithological contribution to the journal is probably more varied than usual, reflecting the wide range of bird-orientated activities available in the county. Most important is the recent establishment of the Ivel Valley Ringing Group who not only continue their studies at South Mills NR but also perform vital Constant Effort Studies (CES) at the nearby Waterloo Thorns. Another vital study carried out by the Group is the regular monitoring of the Houghton Regis ChP winter bunting roost, bearing in mind the likely development of part of the site for a road by-pass. The consolidation of the Group's studies will provide scientific data for conservation purposes, and significantly enhance the annual Ringing Report by D. A. Woodhead.

There are several other ongoing studies in the county. Observations at the Blows Downs migration watchpoint over the period 1985 to 1990 is presented in a paper by Rob Dazley analysing the spring passage. Blows Downs is yet another site threatened by road development, making this paper an important baseline for future reference.

Fieldwork for the breeding bird atlas enters the fourth and penultimate year in 1991 and an article by the co-ordinator updating progress over the previous three years is included. It helps considerably with analysis if fieldworkers submit their tetrad results as soon as possible after the breeding season to Rob Dazley.

With the increase in gull records a thorough assessment of their status is included by Martin Palmer, thereby giving this much-studied group full justice. Also included in this report are extracts from field notes by R. A. Nye on several of Bedfordshire's scarcer breeding birds.

For future students referring to the county's bird life it is important to mention other studies that were carried out in 1990 and the results of which are held on the Recorder's files:

1. A study of the breeding birds of Rowney Warren (1988) by Chris Tucken.
2. A detailed account of the Bromham Heronry in 1990 by Peter Almond.
3. A daily chart covering the 1990 spring passage on Blows Downs by Rob Dazley.
4. Records of Bedfordshire birds reported to the Bird Information Service by Dave Holman and Robin Chittendon.
5. Full details of birds ringed in Bedfordshire by the Ivel Valley Ringing Group in 1990.

As always 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 during 1990. Thanks are due also to our regular artist Andy P. Chick for supplying his usual quality line drawings, and to my wife Patricia for word processing my 'consistently illegible' script.

Finally thanks are due to the following contributors who put 1990's birds on record:

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## REVIEW OF 1990

As with previous winter periods, birdwatching activities centred on the two main clay pits at Brogborough and Stewartby where many hours were spent studying wintering gulls. Among the many thousands of common species several rare Mediterranean Gulls were recorded along with increasing sightings of Arctic gulls, both Iceland and Glaucous. The county clay pits are now regionally established as one of the best sites to observe and study wintering gulls, particularly at Brogborough where, on most winter afternoons, a small knot of enthusiasts can be found, huddled over telescopes, observing the roosting multitudes and swapping local bird news. Elsewhere in the Marston Vale a Great Northern Diver remained from 1989, where also Scaup, Red-crested Pochard and Brent Goose were eventually noted. Cormorant numbers continued to increase and several Shags were found. Away from this area, South Mills NR fared well with Merlin, Hen Harrier and Great Grey Shrike, while in the south of the county two Long-eared Owl roosts were discovered.

With the onset of spring Blows Downs moved centre stage as the first Wheatear arrived on 10 March, to be followed by records on 47 days until 2 May. Although the first Ring Ouzel was early, on 22 March, the main passage did not occur until late April with eventually 17 bird days being recorded. A few Redstarts filtered through, along with Yellow Wagtails and a single Short-eared Owl but Cuckoo were scarce and Whinchat strangely absent. Further along the downs at Barton Hills an impressive Golden Plover passage was logged, with many northern race birds in spangled breeding plumage. At the county's wetlands good numbers of Little Gull and Black Tern migrated through along with Common Terns and the usual common waders such as Redshank, Dunlin and Ringed Plover. Raptors of note included Red Kite, Marsh Harrier and several Ospreys. The star prize of the period however went to Bedfordshire's first record of Roller, recorded at Arlesey in May.

Fieldwork for the breeding bird atlas continued apace with a handful of observers travelling the length of the county to 'square bash' the northern tetrads. Often the rewards were rich, in relative terms, as the discovery of a Reed Bunting singing in Oil-seed Rape, or a Sedge Warbler nesting in field beans took on a new meaning. Tree Sparrows were found locally on the farmland plots as were Yellow Wagtail and Corn Bunting, while in the woodlands Chiffchaffs had a good year but Starlings were surprisingly hard to find. Elsewhere Goshawks were noted at two localities, Nightingales at six and between six and 18 pairs of Hobby summered. On the Greensand Ridge several new Lady Amherst's Pheasant woods were discovered. Nine pairs of Redstart and one pair of Nightjars bred at their traditional site. Pride of place among breeding birds, however, must go to the Barnacle Goose, as a pair reared one gosling to flying stage at Rookery CIP recording the first known nesting of this feral goose in the county. Other important finds were nesting Pochard and Herring Gull in the clay pits, a prospecting Curlew in the north of the county, and a suspicious looking juvenile Cormorant in the Ouzel Valley.

Post breeding wildfowl proved exciting as Common Scoter, Red-necked and Black-necked Grebes moved through the clay pits and, where suitable low water pits were available, a wide range of waders occurred. Particularly at Rookery CIP where a Knot, Sanderling, Little Stint and Curlew Sandpiper were all noted, as well as a Peregrine for the second successive year.

The autumn period was notable for an influx of Buzzards, a back garden Wryneck and Waxwing, many Crossbills and a late Ring Ouzel at Beeston. Harrold CP produced the county's second ever Purple Sandpiper record, which was picked up injured with a broken wing and taken into captivity.

And so as the year drew to a close and as most birders were settling down to counting wildfowl, watching gulls and tallying up their lists, nothing short of a sensation hit the headlines: a Yellow-billed Cuckoo was discovered in the grounds of the RSPB at Sandy in early December. Unfortunately it was dead, which only added to the misery and confusion for both bird and birdwatcher alike, but whatever the final outcome of the record, yet to be decided on by BBRC, it will be the talking point among county enthusiasts for years to come.

In summary, a total of 190 species was recorded in 1990, with one new species, and another pending, elevating the county list by one to 270.

## SYSTEMATIC LIST FOR 1990

Nomenclature follow the 'British Birds' list of Birds 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, CES—Constant Effort Site, ChP—Chalk Pit, CIP—Clay Pit, CP—Country Park, GP—Gravel Pit, SP—Sand Pit, SW—Sewage Works. Place names for mineral excavations follow those by Nightingale (*Bedf. Nat.* 39 73-74.) except for Barkers Lane (TL076493) which is generally known as Priory CP.

## Non-passerines

**Great Northern Diver** *Gavia immer* The individual from December 1990 was relocated at Rookery CIP on 3 January where it favoured the smaller water near Stewartby Station until 24 February. Presumably the same bird was seen briefly at Priory CP (DK) on 21 January and at Chimney Corner CIP on 28 February and 3 March (BIS).

**Little Grebe** *Tachybaptus ruficollis* Poorly recorded as a breeding species but widespread in the Bedford Clay Pits throughout the year. At Houghton Regis ChP three pairs present, but only three young noted (NRF); at South Mills NR two pairs noted, one successful (PO). A post breeding group of 19 recorded at Rookery CIP in September (PA).

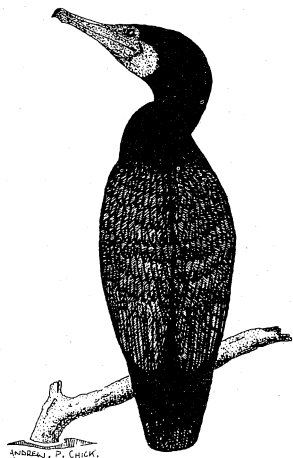
**Great Crested Grebe** *Podiceps cristatus* Recorded breeding at 12 localities, with the majority in the Marston Vale, and for the first time at South Mills NR where two young fledged (PO). The wintering flock at Stewartby Lake reached 90 on 15 December (DJO) and the following maxima were recorded at Priory CP (GD DK).

Jan	Feb	Mar	Apr	Oct	Nov	Dec
13	36	38	17	14	32	26

**Red-necked Grebe** *P. grisegena* One in summer plumage at Brogborough Lake, 5-10 June (TP ERP MJP).

**Slavonian Grebe** *P. auritus* A single at Stewartby Lake on 28 January and 4 February (TP ERP).

**Black-necked Grebe** *P. nigricollis* One at Stewartby Lake from 29 August-2 September (RAS PA *et al.*).



Cormorant

(Andy Chick)

**Cormorant** *Phalacrocorax carbo* The wintering population centred in the Marston Vale continues to thrive. Birds continue to roost on an island tree at Brogborough Lake (54 counted on 12 January) and disperse throughout the clay pits during the daytime, with Stewartby being the main feeding lake. Between May-August only small numbers were present (less than 10). Regular counts at Priory CP (GD DK) are as follows:

Jan	Feb	Mar	Apr	Aug	Sep	Oct	Nov	Dec
20	54	5	3	1	1	2	3	1

Other significant counts were: 20 at Grovebury Farm SP on 31 December; 25 at the Basin Pond, Woburn on 1 January; and seven over Houghton Regis on 29 April. Also noted at Dunstable SW, Luton Hoo, Southill Lake, Bromham Lake, Tiddenfoot SP, Blunham Lake, Twin Bridges GP, and Sandy. An interesting record came from Grovebury Farm SP where three, almost flightless, juveniles were noted on 22 July (PS), suggesting possible breeding nearby. A 'white-headed' bird was present at Stewartby throughout April.

**Shag** *P. aristotelis* At least one in the Brogborough/Stewartby Lake area from 1 January-30 April with up to five from 6 January-3 February (MJP DJO *et al.*). At Houghton Regis ChP three birds from 1989 were present until 10 February with one remaining until 18th (NRF PT). Priory CP had one on 1 January (DHB) followed by two on 3rd (BIS), followed by singles at Southill Lake (BN) and Luton Hoo (AJL) on 11 February. In the second winter period one on the River Ouse at Bedford on 16 December (DJO).

**Grey Heron** *Ardea cinerea* Breeding records as follows: Luton Hoo one-two occupied nests (BRS AJL); Southill Lake, 20 nests, (BN); and at Bromham Hall 18 young fledged from seven nests. A detailed, almost daily analysis by Peter Almond is held on the Recorder's files. Elsewhere post-breeding groups of note were 18 at Priory CP in August, 10 at Houghton Regis ChP on 24 August and nine at Grovebury Farm SP on 29 July. A garden record was received from Haynes on 2 April.

**Mute Swan** *Cygnus olor* A survey carried out by the BTO/WWT revealed 40 pairs of which 27-28 pairs were successful and 12-13 pairs unsuccessful. Productivity was low with c80 cygnets raised and 168 non-breeding birds, 50 at Bedford and c90 at Harrold CP/Radwell GP. These figures represent an increase of 50% since 1983 (per EN).

**Bewick's Swan** *C. columbianus* Six from 1989 remained in the Radwell area in early January reducing to one by 16th and a different group of 13-18 on 31st. In the autumn one was at Radwell from 20 October-4 November with seven at Harrold CP also on 4th. Elsewhere one noted at Rookery CIP on 27 October; 10 over Kempston on 5 November; three south over South Mills NR on 2 December; and 18 north over Chimney Corner CIP on 15th.

**Whooper Swan** *C. cygnus* A party of three adults and two immatures, with possibly another five nearby, at Radwell GP on 31 January (RIB).

**Pink-footed Goose** *Anser brachyrhynchus* One at Cuckoo Bridge GP on 11 February (DHB); two over Sandy on 13 March (RIB) and a single at Radwell GP on 5 May (DSW).

**Greylag Goose** *A. anser* Breeding records received from Radwell GP, where 103 goslings noted; Brogborough CIP; and Chimney Corner CIP. At Radwell GP 277 noted on 18 February.

**Canada Goose** *Branta canadensis* Widespread breeding records from the majority of the county's wetland sites and particularly numerous in the Marston Vale. Regular winter records received from Stewartby Lake where maximum of 300 in December (PA). Priory CP, maximum of 176 in September (DK); Grovebury Farm SP, 400 in November (PSm PMad); Luton Hoo, 270 in October (BRS AJL); Radwell GP, 528 on 4 November (DSW).

**Barnacle Goose** *B. leucopsis* The first confirmed breeding record with a pair raising one gosling at Rookery CIP, for details see separate article. Up to 10 present in the Marston Vale Clay Pits for most of the year with separate flocks of 21 in the Stewartby area from 14-22 January and 16 on 27th. Probably relating to genuine wild birds (DJO). Outside the clay pits two at Radwell GP on 19 January; three at Woburn Park on 23rd; one near Great Barford on 16 March; two at Priory CP on 8 May and four on 22nd; with three at Luton Hoo on 19 March-15 May, two on 22 June and one on 2 October.

**Brent Goose** *B. bernicla* A juvenile of the dark-belled race, *B. b. nigricans* at Chimney Corner CIP from 16-21 November (per BIS). One at Priory CP on 2 April (GD).

**Egyptian Goose** *Alopochen aegyptiacus* A duck at Houghton Regis ChP on 18 March, and a pair the same day on the River Ivel at Tempsford.

**Shelduck** *Tadorna tadorna* Pairs in the breeding season noted at Rookery CIP and Chimney Corner CIP. Small numbers (less than five) recorded at all Marston Vale clay pits from 1 January-





*Barnacle Geese. First breeding pair in Bedfordshire, Rookery CIP*

(Photo: R.A. Nye)

14 October. At Priory CP up to three noted intermittantly from 4 March-6 November with four on 31 August; and at Willington GP two to four recorded from 24 April-12 May.

Elsewhere singles at Grovebury Farm SP on 14 January; Dunstable SW on 4 February; and Houghton Regis ChP on 6 October and 11 November.

**Mandarin** *Aix galericulata* Woburn and Eversholt Lakes continue to be the main breeding area with several ducklings noted at both sites and a top count of 17 birds on 7 October at Woburn (BN). Breeding also confirmed at Luton Hoo where one pair present (AJL), and suspected at Stockgrove CP where a series of reports of up to 10 birds noted from February-August (RD). Elsewhere a pair was noted on the River Ivel on 30 March; a pair at Flitwick Moor in June; a single at Wardown Park, Luton from 5-28 January; a drake at Bromham Lake on 3 July; three at East Hyde on 9 December; and a pair on the River Flit at Clophill also on the 9th.

**Wigeon** *Anas penelope* At the main sites in the Ouse Valley peaks of 238 and 158 at Harrold CP on 18 February and 4 November respectively, with two drakes summering at nearby Radwell GP where 195 counted on 11 February (DSW). In the Marston Vale up to 100 noted in January at Rookery CIP with a duck summering and a gradual build up in numbers from early August. At Priory CP monthly maxima as follows (GD DK):

Jan	Feb	Mar	Apr	Sep	Oct	Nov	Dec
21	50	8	2	9	9	18	24

Blunham Lake had mid-month maxima of 166 in September, 168 in October, 285 in November and 295 in December (GDP). Elsewhere less than 10 noted during the winter period at Luton Hoo, East Hyde, Dunstable SW, Houghton Regis ChP, Southill Lake and Tiddenfoot CP.

**Gadwall** *A. strepera* At the two main sites breeding occurred; at Dunstable SW two pairs raised 13 ducklings and at Luton Hoo a pair reared 11 young. A pair also noted at Rookery CIP throughout the summer. Monthly maxima from the two main sites as follows (BRS PT):

Luton Hoo

Jan	Feb	Mar	Apr	May	Jun	Sep	Oct	Nov	Dec
66	60	45	45	14	25	40	50	40	50

Dunstable SW

Jan	Feb	Mar	Apr	Jul	Aug	Sep	Oct	Nov	Dec
20	37	51	12	21	32	51	31	28	15

Small numbers (less than 10) recorded in the Marston Vale with a top count of 19 at Chimney Corner CIP and 40 at Rookery CIP in December, (DJO). Elsewhere 46 at Harrold CP in November, 22 at Priory CP on 4 January and a scattering of records from eight other localities; including a pair briefly at Whipsnade Zoo on 5 April which were a site first (CT).

**Teal** *A. crecca* The only breeding record came from South Mills NR with two-three pairs suffering a high juvenile mortality rate; peak numbers in September with 32 on 14th (PO). At Priory CP monthly maxima as follows (GD DK):

Jan	Feb	Mar	Sep	Oct	Nov	Dec
110	68	53	2	2	10	30

Elsewhere maximum winter counts at the following sites: Luton Hoo, 77 in December; Houghton Regis ChP and Dunstable SW 22 in January and February; Chalton SW, 18 in December; Southill Lake, 30 in January; Battlesden Lake, 30 in September; Radwell GP, 95 in February; Rookery CIP, 14 in September; and counts of less than 10 from six other localities outside the Marston Vale.

**Mallard** *A. platyrhynchos* Counts of between 100-200 recorded at Priory CP, Grovebury Farm SP, Millbrook CIP, Felmersham NR, Woburn Lake, Luton Hoo, and 210 at Southill Lake in January.

**Pintail** *A. acuta* A scattering of records from: Dunstable SW, a pair on 11 February and a duck on 7 October; 11 at Radwell GP on 11 February with 17 on 18th; two at Blunham Lake on 8 September and one from 10th-11th; a single at Rookery CIP on 11 September; and one at Priory CP on 20 October.

**Garganey** *A. querquedula* The only record was of a duck at South Mills NR on 3 September (PO).  
**Shoveler** *A. clypeata* In the breeding season noted intermittently at Luton Hoo, Dunstable SW, South Mills NR, Radwell GP and Rookery CIP. During the winter period noted in numbers of generally less than 20 from most of the county's main wetland sites and with a top count of 35 from Southill Lake on 23 September.

**Red-crested Pochard** *Netta rufina* An eclipse drake at Rookery CIP on 12-13 October (PA) with possibly the same bird at Chimney Corner CIP from 16 November into 1991 (BIS).

**Pochard** *Aythya ferina* A pair bred at Vicarage Farm CIP, rearing three young to flying stage (RAN). Elsewhere summer records from Radwell GP, Rookery CIP, Brogborough CIP. The main wintering flocks were at Brogborough Lake, c200 in January and at Chimney Corner CIP with 155 in December (DJO). Rookery CIP, Woburn Lake, Southill Lake and Radwell GP all recorded between 100-200 at some period during the winter. Regular counts at Priory CP produced the following maxima, (DK GD):

Jan	Feb	Mar	Sep	Oct	Nov	Dec
178	232	24	9	15	1211	115

**Tufted Duck** *A. fuligula* Widespread as a breeding bird, particularly in the Marston Vale, where the majority of larger wintering flocks were reported. No detailed counts were received.

**Scaup** *A. marila* An adult female at Brogborough Lake from 5-27 January (TR MJP *et al.*).

**Common Scoter** *Melanitta nigra* Following on from last year yet another series of mid-summer records. On 14 June three drakes at Stewartby Lake (PA) with a first summer drake at Brogborough Lake on 14th-17th (MJP PT). On the 20-21 June an adult drake and different first summer drake at Brogborough Lake (PT). At Rookery CIP an immature drake on 14 October (MJP) and at Radwell GP a duck on 4 November.

**Goldeneye** *Bucephala clangula* At the county's main wintering site, Brogborough Lake, birds present until 14 April and again from 28 October. Monthly maxima as follows (MJP RAN *et al.*):

Jan	Feb	Mar	Apr	Oct	Nov	Dec
36	42	35	14	2	9	13

Elsewhere during the Brogborough dates small numbers (less than five) reported from Dunstable SW, Rookery CIP, Woburn Lake, South Mills NR, Priory CP, Harrold CP and Elstow CIP. The earliest returning autumn bird was at Dunstable SW on 22 October.

- Red-breasted Merganser** *Mergus serrator* A pair on passage at Willington GP on 10 April (DHB) and a 'red head' at Luton Hoo on 23 October (BRS).
- Goosander** *M. merganser* At Radwell GP a maximum of six until 18 February with lesser numbers at Harrold CP until 2nd and again from 17 November. At Woburn and Eversholt Lakes a high of 11 in January followed by single figure counts until 24 March and again from 18 November with 15 on 26 December. Elsewhere sporadic single figure counts from Southill Lake, Stewartby and Brogborough Lakes, South Mills NR, Blunham and Priory CP where the last spring record was on 9 April.
- Ruddy Duck** *Oxyura jamaicensis* At Rookery CIP present for much of the year with a high of 14 in March, one or two pairs bred raising several young. One or two pairs bred at Luton Hoo where small numbers were noted from mid-February to late July (BRS AJL). A pair also bred successfully at Vicarage Farm CIP rearing three young (RAN). Elsewhere a scattering of records throughout the year from Harrold CP, Stewartby Lake, Radwell GP and Houghton Regis ChP.
- Red Kite** *Milvus milvus* One at Tebworth on 3 April (MDK) coincided with others in southern England.
- Harrier sp.** *Circus sp.* A 'ringtail' near Whipsnade Downs on 22 September (PM).
- Marsh Harrier** *C. aeruginosus* A good year for this raptor commencing with a female at South Mills NR on 7 May (RAN); a female near Elstow on 18 June (PT); and one at Houghton Regis ChP on 10 August (DM).
- Hen Harrier** *C. cyaneus* Single ringtails at Great Barford on 30 October (JTRS), South Mills area 18-19 December (PO JC TA) and Stewartby Lake on 30 December (RLO BMO).
- Goshawk** *Accipiter gentilis* Reported from two separate localities in the county.
- Sparrowhawk** *A. nisus* The majority of observers reported regular sightings throughout the year from across the county, including urban areas. It could now probably be classed as abundant as the Kestrel in most districts. Tetrad atlas fieldwork data revealed many breeding records (RD), at South Mills NR four were trapped and ringed (PO); and on a car journey along the A6 from Bedford to Luton on 3 October five different birds were noted (PT).
- Buzzard** *Buteo buteo* A remarkable series of 32 sightings of which several were from three different localities in the breeding season. The majority of records were in the autumn from Luton Hoo, Southill Park, Warden Great Wood and Heath and Reach. Elsewhere noted at Everton, Odell Great Wood, Blunham, Deepdale, Wrest Park, Chicksands Wood, Checkley Wood, Cranfield, Dunstable Downs, Whipsnade Zoo, Cox Hill and Kensworth.

A summary of Buzzard records:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3	2	1	2	3	1	—	3	5	5	5	2



Sparrowhawk

(Andy Chick)

**Osprey** *Pandion haliaetus* Another good crop of records as follows: Stewartby Lake, 14 April (BIS); Houghton Regis ChP, 15 April (NRF); near Bletsoe, 7 May (PA); Wrest Park, June (SDN); Rookery CIP/Stewartby Lake, 15 July, with probably the same bird at Harrold CP in the afternoon (PM); Wilden Reservoir, 24-27 July (RN); Southill Lake, 31 July (per DP); and two at Southill lake in early August (per BN).

**Kestrel** *Falco tinnunculus* Status remains unchanged; a widespread species.

**Merlin** *F. columbarius* An adult male noted in the South Mills NR/Girtford area on 2, 14 and 17 December (PO). A single female in the Pegsdon Hills area on 10 November and 29 December (JP).

**Hobby** *F. subbuteo* Breeding season records from 18 sites as follows:

- Site 1. A pair raised two young.
- Site 2. A pair fledged one-two juveniles.
- Site 3. An adult seen with two juveniles.
- Site 4. An adult feeding one juvenile.
- Site 5. A pair displaying.
- Site 6. An agitated adult suggested a nest nearby.
- Site 7-18. Adults noted throughout the breeding season in suitable breeding habitat.

Elsewhere noted regularly on passage at the main wetland sites, and also over Bedford and Luton Town centres, particularly in May and late August. Extreme dates were at Dunstable SW on 22 April and Kempston on 14 October.

**Peregrine** *F. peregrinus* Following on from last year's remarkable record another series of sightings from Rookery CIP related to an immature female from 11 August, with further sightings on 13th, 1 and 27 September (RAN DHB PA JB).

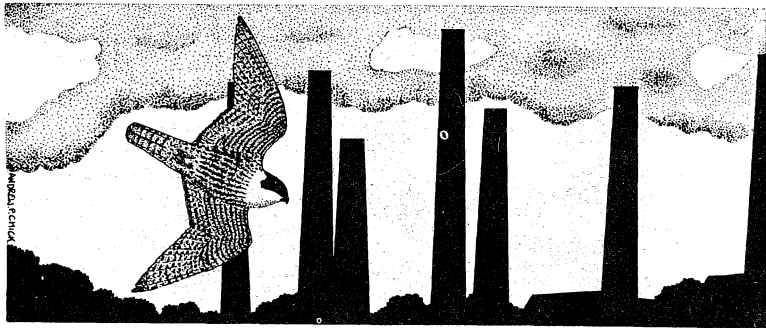
**Red-legged Partridge** *Alectoris rufa* Widely distributed. There were no reports of large coveys.

**Grey Partridge** *Perdix perdix* The majority of records were from the Galley and Warden Hills area where coveys of 29 and 40 plus were noted in November and December respectively (JT JP). Elsewhere recorded at Everton, Woburn, Haynes (breeding), Barton Hills (breeding), Bedford SW, Wilden (young noted), Cardington, Shefford, Dunstable SW (young noted), South Mills NR and Houghton Regis ChP (young noted).

**Quail** *Coturnix coturnix* In contrast to 1989's 'Quail year' 1990 produced only two records; at Arlesey on 4 May (MJP) and at Dunstable SW on 21 August (PT).

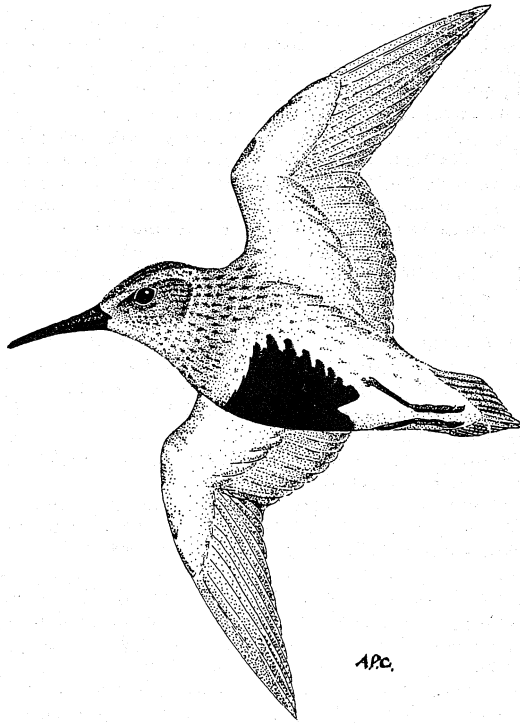
**Pheasant** *Phasianus colchicus* A melanistic bird at Sandy on 2 March.

**Lady Amherst's Pheasant** *Chrysolophus amherstiae* Maulden Wood continues to be the main site with up to 10 males calling in April. At Chicksands Wood a maximum of four males heard, one photographed (DP); Charle Wood, sightings throughout the year but reduced in numbers, maximum of five birds (PS); single males calling at Home Wood, King's Wood, Stockgrove CP and Steppingley (PT); at Luton Hoo up to 15 birds remaining with poor breeding success (AJL). There were negative reports from the Millbrook area, but remarkably a single male was seen near Stewartby Lake (TL008 430) on 12 May (GDP).



Hobby

(Andy Chick)



Dunlin

(Andy Chick)

**Water Rail** *Rallus aquaticus* Breeding season records received only from Flitwick Moor. Regularly noted in ones or twos at Priors CP from January-18 March and from 13 October into 1991 (DK). Elsewhere single birds recorded from October-March period at Dunstable SW, Houghton Regis ChP, South Mills NR, Leighton Buzzard, Kempston, Stewartby Lake, Brogborough Lake, Rookery CIP, Woburn Park and Legrave Marsh.

**Moorhen** *Gallinula chloropus* A count of 60 at Luton Hoo on 20 December was of note (BRS).

**Coot** *Fulica atra* Large numbers wintered in the Marston Vale; top counts were 760 at Brogborough Lake in November (MJP), 243 at Chimney Corner CIP in January and 104 at Stewartby Lake in October (DJO).

**Crane sp.** *Grus sp.* Two, west over South Mills NR on 27 May (PO).

**Oystercatcher** *Haematopus ostralegus* A flock of 11 at Rookery CIP on 26 August and two at South Mills NR on 1 May. Singles reported as follows: Brogborough Lake 17 February; Rookery CIP 30 April, 6 August, 14 September; Houghton Regis ChP 6 May; Priors CP 18 July; Chimney Corner CIP 13 December; Kempston, 30 November, 7 and 14 December.

**Stone Curlew** *Burhinus oedicanus* A single heard on Pegsdon Hills on 30 March (JP).

**Little Ringed Plover** *Charadrius dubius* Present in the breeding season at: Rookery CIP, several pairs, young noted; Willington GP, 11 on 19 May, New Road SP Sandy; Grovebury Farm SP, displaying noted but failed due to disturbance; Dunstable SW/Houghton Regis ChP, two pairs seen displaying; Chalton SW, a pair displaying; Radwell GP; Chimney Corner CIP; and at two other sites. Passage was widespread with the first at South Mills NR on 19 March and the last at Dunstable SW on 27 August.

**Ringed Plover** *C. hiaticula* Breeding records from the Ivel Valley where three pairs possibly bred and in the Marston Vale at Rookery CIP and Chimney Corner CIP. Recorded throughout the county's wetlands from 30 January-16 September with the largest count of nine at South Mills NR on 2 April.

**Golden Plover** *Pluvialis dominica* Notable first winter period counts from: Radwell, c2000 in January; Shillington, 407 on 18 March; Woburn c500 on 14 January; c2200 at Great Barford on 11 February; up to 3000 in the A1 Biggleswade area in January-February; 173 at Elstow on 1 January; 147 at Eastcotts, Bedford on 1 January; and reports of lesser numbers from a further 11 sites. In the spring birds in summer plumage noted at South Mills NR, Barton Hills and finally, three at Thurleigh on 20 May. First to return were two at Rookery CIP on 13 September, followed by a gradual build up at the traditional sites.

**Grey Plover** *P. squatarola* One at Willington GP on 6 and 9 May (TR MJP) followed by a single over Priory CP on 22 September and two on 13 October (DK).

**Lapwing** *Vanellus vanellus* Up to 20 pairs bred at Rookery CIP with widespread breeding in farmland areas. Post breeding movements noted through the Marston Vale in early July where several thousands roosted at Rookery CIP. Up to 1500 at Grovebury Farm SP in October-December and 800 in fields near Bedford SW in February.

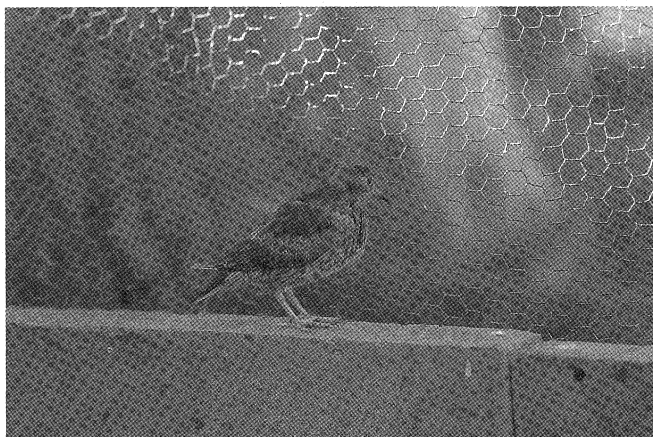
**Knot** *Calidris canutus* One in near full summer plumage at Willington GP on 5 May (MJP) and another at Rookery CIP on 11 May (PM).

**Sanderling** *C. alba* All records from Rookery CIP, in the spring one on 6 May (JB) and 11 May (PM) with three on 7-8 September (RAN JB).

**Little Stint** *C. minuta* A spring record was exceptional on 29 April at Rookery CIP (RAN). In the autumn one at Chimney Corner CIP on 23 September (RIB) and at Rookery CIP as follows: one on 5-6 September, seven on 7th, four on 8th and one on 12th (PT PA JB KMS RAN MJP).

**Curlew Sandpiper** *C. ferruginea* One at Rookery CIP on 14 May (MJP) continued a good spring for calidrids at this location. Also at Rookery CIP an adult in breeding plumage on 22 July (SDN) and two on 9 September (MJP).

**Purple Sandpiper** *C. maritima* An injured adult was found at Harrold CP on 9 September and taken into care. It was found to have a broken wing and was still alive in March 1991 (BG). This is only the second county record, the first being at Barkers Lane GP in 1954.



Purple Sandpiper

(Photo: B. Galloway)



*Jack Snipe. South Mills NR*

(Photo: Paul Oldfield)

- Dunlin** *C. alpina* In the Marston Vale recorded near continuously from 13 April-4 November, mainly at Rookery CIP with maximum of 14 noted on 12 May and also at Chimney Corner CIP. At South Mills NR noted from 14 March-28 April on five dates with five on 28th. Also noted at Priors CP, Houghton Regis and Dunstable SW. Extreme dates came from Radwell GP on 18 February and 4 November.
- Ruff** *Philomachus pugnax* At Rookery CIP eight on 3 May, two on 22-24 August and one on 7-9 September. At Chimney Corner CIP two on 30 September and a single at Bedford SW on 15 August. At South Mills NR two from 19-22 March and singles on 7 and 22 September.
- Jack Snipe** *Lymnecryptes minimus* At Houghton Regis ChP one or two birds present until 15 April and again from 10 September (NRF PT), and at South Mills NR two until 19 April and one-three from 24 October (PO). Elsewhere singles at Jones SP on 23 March (LC), Grovebury Farm SP on 21 October (PSm) and Clophill on 9 and 16 December (PSO).
- Snipe** *Gallinago gallinago* Drumming noted at Rookery CIP (3), South Mills NR (3), Houghton Regis ChP (1-2), Thorn (1). Numbers peaked at c100 in February at South Mills NR and 23 were counted in Rookery CIP on 7 January. Also of note were 15 along the River Lea at East Hyde on 12 February with lesser numbers reported from a further 11 localities in the winter periods.
- Woodcock** *Scolopax rusticola* Roding recorded at Maulden Wood (3), The Lodge, Sandy (1), Coppice Wood (1), Aspley Heath (2), Chicksands Wood (1), Warden Little Wood (1), Moneypot Hill (1). Elsewhere outside the breeding season noted at Ascot Farm, Linslade; Luton Hoo; Kidney Wood; Southill Park; Pegsdon Hills and at South Mills NR, a site first.
- Black-tailed Godwit** *Limosa limosa* A group of 15 at Rookery CIP on 5 August with 13 on 13 August (JB). On 18 October an adult trapped at South Mills NR (PO), followed by a single at Radwell GP on 21st (DSW).
- Bar-tailed Godwit** *L. lapponica* Two at Rookery CIP on 29 April with one on 30th and one on 3 May (MJP RAN). At South Mills NR singles on 22 April and 2 May (PO).

- Whimbrel** *Numenius phaeopus* Passage migrants at South Mills NR on 2 May (1) and Stewartby Lake on 5th (1). At Rookery CIP one on 6 May, two on 12th; and in August six on 13th, one on 24th and one on 7 September. A single over Luton on 15 July and a flock of c40 east over Kempston on 25 August (DJO).
- Curlew** *N. arquata* At a site in the north of the county a bird was present for three weeks in the breeding season. The usual scattering of records as follows: Priory CP, singles on 31 March, 19 June and 4 July with two on 25 June; Stewartby/Rookery CIP area, four on 22 August, two on 28 August and one on 8 September; Brogborough Lake one on 11 November; Shillington; South Mills NR, singles on 26 April and 20 November.
- Spotted Redshank** *Tringa erythropus* At South Mills NR one in breeding plumage on 17 June and a juvenile on 7 September (PO). At Rookery CIP immatures on 15 September and 7 October (RAN).
- Redshank** *T. totanus* Breeding recorded at Rookery CIP, Chimney Corner CIP, Radwell GP, Dunstable SW, Houghton Regis ChP and Stewartby Lake. The first bird of the year was at South Mills NR on 13 January followed by February records there and at Rookery CIP. The main passage throughout the county was in late March/early April with a top count of 24 at South Mills NR on 21 March. The final summer record was at Rookery CIP on 15 August.
- Greenshank** *T. nebularia* A good year for this species commencing with two at Stewartby Lake on 29 April followed by 71 records countywide until 9 September at Rookery CIP with a top count of five birds present on 22 August. The gravel pits at Willington, Radwell and South Mills proved the favourite sites along with Rookery CIP in the Marston Vale. Elsewhere recorded at Houghton Regis ChP, Luton Hoo and Everton.
- Green Sandpiper** *T. ochropus* Recorded across the county in every month with the majority of records in August and September from the Marston Vale and the Ouse Valley GPs. Where conditions were good for waders, such as Battlesden Lake, a steady autumn passage of small groups was noted. Winter period records came from Woburn, Dunstable SW, South Mills NR, Houghton Regis ChP, Tiddenfoot GP, Bedford SW, Priory CP and Willington GP.
- Wood Sandpiper** *T. glareola* A poor year despite the ideal wader conditions at many wetland sites. A juvenile at Rookery CIP from 21-28 August (RAN) and one at Dunstable SW on 27 August (PT).
- Common Sandpiper** *Actitis hypoleucos* Recorded commonly at most wetland sites with the first at Priory CP on 18 April and the last at Houghton Regis ChP on 23 September. Peak months were May and August and the top count was six at Dunstable SW on 7 July.
- Turnstone** *Arenaria interpres* An excellent passage in May as follows: Rookery CIP, one 2nd-26th with two on 3rd-4th; Dunstable SW, one on 2nd; Chimney Corner CIP and Stewartby Lake, one on 12th; Willington GP, two on 15th. In the autumn singles at Rookery CIP on 12 August and 12-13 September.
- Mediterranean Gull** *Larus melanocephalus* Around five birds were recorded during 1990 taking the total for the county to 20. With the large increase of gull numbers attracted by the refuse tips at Brogborough No2 CIP, Vicarage Farm CIP, and Elstow CIP, and also the increase in 'gull-watchers' over the last few years, 1990 saw the second best performance for this species, following up to seven in 1989 which had taken the county total to 16 by the end of last year. A very quick increase since the first record was as recent as 6 February 1982 in Luton and was followed by singles in 1984 and 1986 and two in 1988.
- A first winter bird remaining from 31 December 1989 was seen on location at Brogborough Lake between 1 January and 10 February and was presumably the same bird as seen at Rookery CIP 18 February (PT). An adult summer bird reported from Brogborough Lake on 21 February (RSPB per IKD) was refound on 3 March (MJP *et al.*). It was seen on the adjacent tip on 4th and on the lake on 5th, 7th, 9th and 10th (PO *et al.*). Presumably it was this bird reported at Stewartby Lake on 13th (per Birdline Midlands). In the second period a first winter bird was seen at Rookery CIP on 11 September (JB DHB) and presumably the same at Brogborough Lake on 30 September (PRO TR) and Elstow CIP on 21 October (DHB). Possibly a different first-winter bird was at Brogborough Lake on 23 December (RAN) and seen over Priory CP on 24 December (DJO). Further first-winter sightings were enjoyed at Brogborough Lake into February 1991 (LC RAN). Lastly an adult in winter plumage was seen at Elstow CIP on 8 November (DHB).



**Little Gull** *L. minutus* Another very good year for this species with 21 plus birds passing through the county.

After an unsubstantiated report from Birdline Midlands of a single at Brogborough Lake on 16 April, spring passage involving a minimum of 13 birds was noted at Stewartby Lake, Brogborough Lake, Rookery CIP, Chimney Corner North CIP, Harrold CP and Priory CP from 22 April to 16 May (RED DK MJP *et al.*). A first-summer bird at Stewartby Lake on 22nd was probably the same seen at Priory CP on 23rd. An adult was at Priory CP on 27th and again on 29th when also a first-summer was present. A first- and second-summer were at Stewartby Lake on 30 April. Two adults at Stewartby Lake on 1 May were both seen at Rookery CIP and Stewartby Lake on 2nd with a possible first-summer also at the latter site. Two adults were seen at Brogborough Lake on 2nd. On 3rd, two adults were at Priory CP and six birds, including up to five adults, were at Stewartby Lake. Interestingly, five adults were at Priory CP on 4th, but on 5th only one immature was present. Four birds were at Harrold CP on 5th and a first-winter was seen at Rookery CIP and Stewartby Lake, but there were only negative reports for there on 6 May. A first-summer was at Rookery CIP on 7th and a single was present at Chimney Corner North CIP on 8th. A first-summer was at Rookery on 11th, 13th, 14th and 16th and a second-summer was also present on 16th.

Movement was proven between Rookery CIP and Stewartby Lake in both periods. It is highly likely that the Brogborough Lake birds also moved through these sites by following the clay pits chain to the river Ouse and out towards the Wash. To and fro commuting was also proven in the autumn between Priory CIP and the Stewartby-Rookery Complex (DK).

Autumn passage was recorded at Stewartby Lake, Rookery CIP, and Priory CP from 28 August through to 14 October involving at least seven birds. Particularly from 8 September, some birds lingered for several days between the three sites.

A juvenile at Rookery CIP on 28 August was followed by two first-winter birds at Stewartby Lake on 30, 31 August, with a juvenile and first-winter there on 1 September, two adults on 2nd and an immature on 4th. Two immatures and a second-year bird were at Stewartby Lake on 8th and were either there or at Rookery till 1 October. A first-winter bird at Priory CP on 2nd may have been one of these and was discontinuously present on 3rd, 4th and 8th to 11th and was considered the same as that seen at Stewartby Lake on 6th, 8th, 10th, 12th and 14th (DK RAN *et al.*).

Lastly, a late first-winter bird was seen at Radwell GP on 16 November (DSW).

**Black-headed Gull** *L. ridibundus* Numbers continue to increase. This is now one of our commonest winter species. With many birds still coming into the roosts at Brogborough and Stewartby long after dusk has fallen, it is probably impossible to estimate the actual numbers present during the winter periods. However, it is probably in excess of 25-40,000 (MJP pers. comm.). Good numbers also summer with us and breeding records came from two sites, on 4 June 11 nests, two with young, were noted at Millbrook CIP (PA) whilst at Chimney Corner GP, 18 nests and 40 plus birds were counted on 30 April (RED) increasing, to 20-30 pairs on 1 May and 85 pairs on one island and 17 pairs on another at this site on 13 May (PT).

One bird was reported bearing a Norwegian ring, which is being followed up by the observer (DK).

**Common Gull** *L. canus* There were no summering records, as usual. After a late first-winter bird at Stewartby Lake on 30 April, the last in spring was an adult in full summer plumage present at Rookery CIP on 19 May. The first autumn returnee was noted on the northern pit at Rookery on 22 August. Several thousand were present during the late winter and late autumn but no counts or estimates were received.

**Lesser Black-backed Gull** *L. fuscus* Always scarce at the start of the year with only single figures present in the Stewartby and Brogborough roosts for the first week or so but increasing slowly by the end of January. During March, numbers rose rapidly as spring passage took off and this species was more obvious in the roosts as the Herring Gulls and Great Black-backed moved away from their winter quarters in the county. Numbers were still numerous at the end of May, many of them frequenting Rookery CIP. Still present through June and July, but no breeding attempts reported unfortunately—observers are requested to keep an especial eye out for breeding activity of particularly this species and Herring Gull during 1991. The only count received was for around 940 present, with only two Herring Gulls, at Brogborough Lake on 1 August but they remained numerous through September when they were, with B-h Gull, the most abundant of the gulls present, but during December numbers dwindled until just a few remained by the end of the year.

**Herring Gull** *L. argentatus* Still increasing year by year at the roosts, the second most numerous species present, after Black-headed Gull, with several thousand present most winter evenings.

A pair were noted nest building at Chimney Corner CIP on 30 April with confirmed breeding on 4 June, one chick fledging (RAN). Returning winterers began to build up from early September. In the winter months, as well as day roosting and bathing at Brogborough Lake and No2 pit, Stewartby Lake, Elstow CIP, Chimney Corner CIP and Rookery CIP, large flocks of mainly this species and Great Black-backed Gull settle on fields to rest, particularly at Lidlington and SW of Kempston. They are sometimes accompanied by good numbers of Black-headed and Common Gulls. Careful scanning of these large gull flocks is regularly producing sightings of Iceland Gull and Glaucous Gull for the county.

The variety of plumages exhibited by younger Herring Gulls observed in the vast winter roosts at Stewartby Lake and Brogborough Lake indicate the complexities of this species and the dangers of assuming a correct identification of a difficult new species on brief, or too distant views or in declining light. Of interest this year on 7 March, at Stewartby Lake was a very pale grey-biscuit gull between Herring Gull and Lesser Black-backed in size, with all black bill and a suffused yet solid quite broad tail band with pale tips; the other three or four primaries were darkish brown not grey or black and the inner primaries and secondaries were almost fully white beyond the coverts; there was a marked primary tip projection beyond the tail near to that of Iceland Gull. Thus this bird was showing some of the characters attributed to 'Thayer's Gull' but was considered by the observers to be an apparent first-winter Herring Gull which had also been seen a week or two earlier at Brogborough Lake (MJP RAN). A white winged gull at Brogborough No2 CIP tip on 24 March was a part albino Herring Gull on jizz, head and bill, rather than Iceland Gull (RAN TR PO).

At least two Yellow-legged Gulls *L. a. michahellis* considered a separate species by an increasing number of authorities, were recorded during the year. Full details were received of an adult at Elstow CIP on 23 October (DHB). Possibly the same bird was reported at Brogborough Lake on 30 October (PO), and it may have been the same as an adult bird seen at Rookery North CIP on five dates between 22 August and 3 September with two reported on the last date, but no detailed description provided (PA). A third winter bird, probably of this race/species, was recorded at Brogborough Lake on 3 March, and seen again on 7 March at Stewartby Lake, showing the correct bill and plumage details but leg colour not confirmed (MJP).

**Iceland Gull** *L. glaucoides* An amazing year for this species. Analysing the 70 plus records from around 15 observers proved a major headache. With gull flocks moving between several sites on the same day and observers of varying experience and opinion reporting the same individual as of various ages, especially a particularly white bird which was determined as first-winter not second-winter on bill detail, it is difficult to be exact but at least five, probably seven, birds were seen during 1990—enough to double the previous county total.

Following the first record, a second-winter bird near Barkers Lane GP on 18 March 1962, a first-winter bird was at Brogborough No2 tip from 16-30 November 1985, another second-winter was at Elstow CIP on 5-6 January 1987 and another second-winter at Brogborough Lake on 24 January 1988. In 1989 an adult was present from 4-11 March around the Brogborough area and a second-winter was at Brogborough Lake on 15 December. The first winter sighting for Stewartby Lake on 19 March given in the 1989 report was in fact the same as the second-winter bird in the Stewartby/Rookery complex from 19-28 March.

In 1990 two first-winter birds, including the white bird, were recorded from 3 January to at least 5 March and approximately 21 January to at least 18 April respectively. An adult was recorded from 21 January to 12 March with two claimed, but not verified, as separate, on at least 5 March. A second-summer bird was seen at Brogborough Lake on 24 February, 22 March and 21 April, and Brogborough No2 tip 24 March, also Stewartby Lake on 24, 26 and 28 March. Other claims of this age are presumed to relate to the white first-winter bird. The age of the 24 February sighting was also debated (RAN JR PO *et al.*).

In the second winter period, a second-winter bird was at Elstow CIP on 8 November, Brogborough Lake on 10 November; Millbrook CIP and Rookery CIP on 15 December (DHB RAN PA). Lastly a first-winter bird at Elstow CIP on 31 December (DHB) stayed in the clay pits area into February 1991.

**Glaucous Gull** *L. hyperboreus* Just over 70 records were received from around 17 observers involving at least six, probably seven or eight and a maximum of nine birds. The majority of

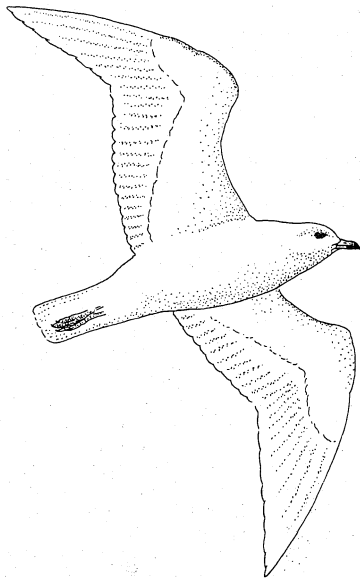
the sightings were from Brogborough Lake, the adjacent tip and fields, Stewartby Lake or Rookery CIP.

A first-winter bird with very white rear, previously seen on 27 and 31 December 1989 at Brogborough Lake on 1, 3, 4 and 7 January. Possibly this same first-winter was seen from 3 February to at least 11 March and yet another first-winter bird was seen from 24 February to 23 April, both at the usual sites (RAN MP *et al.*). A first-winter bird over Girtford South Mills NR on 25 March (RIB) is presumed this last bird which was also seen at Stewartby Lake the same day.

A second-winter bird was reported at Brogborough Lake on 1 January then again on 18 February and 2 March, on the tip on 24 March, and later that day at Stewartby Lake, and finally on the tip on 12 April (TR).

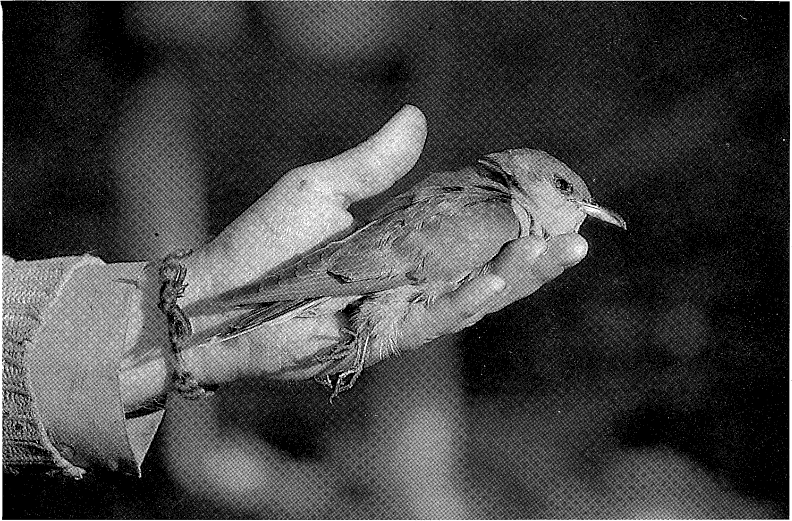
An adult was seen on 27 January, then 2-5 March at either Brogborough Lake or Stewartby Lake (RAN MJP) and may have been the remains of this bird or the adult Iceland Gull last seen on 12 March, that was found near Folder Farm on 28 April (RAS). However, an adult was seen also in the second winter period on 2, 28 October, 25 November, 1, 8, 9 and 27 December and staying into 1991 (PO RAB TR RAN *et al.*). A probable first winter bird, almost adult plumage but with third winter bill patterns, was seen at Brogborough Lake on 24 December only (MJP RAN). Finally, a first-winter bird at Elstow CIP on 25 December (DHB) also stayed into 1991.

The county total now stands at around 35 birds (allowing for returning birds from previous years), all but two—adults in 1972 and 1974—since a first winter in November 1983: three came in 1984, four or five in 1985, four in 1986, at least three, probably six, in 1987, two or four in 1988 were new, as were five or six in 1989.



*Iceland Gull*

(Andy Chick)



Yellow-billed Cuckoo. The Lodge, Sandy, 6 December 1990.

(Photo: W.E. Oddie)

**Great Black-backed Gull** *L. marinus* No estimates or counts received this year but as usual large numbers were in the winter roosts at Stewartby Lake and Brogborough Lake. They were most numerous at the turn of the year when numbers in the county probably ran into several hundreds. By March their numbers decline quite quickly, in contrast to the rapid increase at that time in Lesser Black-backed, building up again in the last two months of the year. No details of late departure or early returns were received but small numbers are present from July.

**Kittiwake** *Rissa tridactyla* Just three single birds this year—all adults. In the spring there were two typically short stay passage birds noted; at Girtford, South Mills NR—on 19 March (RIB) and at Stewartby Lake on 16 April (RAN). An adult in the roost at Brogborough Lake on 1 November was a good find (DHB).

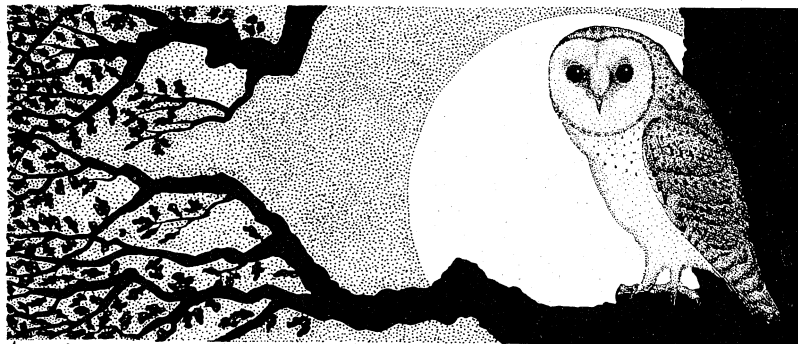
**Sandwich Tern** *Sterna sandwicensis* One at Stewartby Lake on 1 April (TR) and one over Priory CP on 23 May (DK).

**Common Tern** *S. hirundo* At Radwell GP c20 pairs raised 21 young and at Harrold CP five pairs reared five juveniles (DSW); in the clay pits Rookery CIP c10 pairs, Chimney Corner CIP, c20 pairs with two pairs on the north basin and young noted at all sites (PT); Bromham Lake, one pair raised three juveniles (PA); Grovebury Farm SP, a pair reared two young to flying stage (PS). Passage was widespread with the first at Priory CP on 17 April and the last two at Stewartby Lake on 21 September. Notable counts were 38 at Rookery CIP on 27 August, 37 at Priory CP on 12 May and 30 at Stewartby Lake on 2 May.

**Arctic Tern** *S. paradisaea* Six at Stewartby Lake were the first on 13 April, followed by one on 22nd; one on 1 May, two on 2nd, and 12 on 3rd. At Priory CP, three on 23 April; 20 on 3 May, one on 12th, 13th and 21st, with two late birds on 24 September.

**Little Tern** *S. albifrons* Singles at Priory CP on 5 May and 14 June (DK) and at Radwell GP on 24 June (DSW).

- Black Tern** *Chlidonias niger* A superb spring passage as follows: Stewartby Lake, noted on seven days between 30 April and 21 May with flocks of 26 on 2nd and 24 on 3rd; and four on 27 July; and in the autumn, two on 28 August–4 September. At Rookery CIP, 42 on 3 May and 11 on 5th; Brogborough Lake, one on 2 May, nine on 3rd, nine on 4th and one on 20th. Elsewhere 24 at Harrod CP on 5 May, two at South Mills NR on 7th and three at Chimney Corner CIP on 6th.
- Feral Pigeon** *Columba livia* Large flocks in the Warden Hills area during November–December of up to 500. Also c50 at Luton in January and 30 at Leighton Buzzard in September.
- Stock Dove** *C. oenas* A maximum of 70 at Priory CP on 13–14 February, 50 at Bidwell in January and 23 at Knotting on 7 January.
- Woodpigeon** *C. palumbus* A flock of c600 at East Hyde on 3 January was of note.
- Collared Dove** *Streptopelia decaocto* Flocks of c50 at Wardown Park in January, Leighton Buzzard in September and Priory CP in December.
- Turtle Dove** *S. turtur* An early migrant at Houghton Regis ChP on 10 March with the main arrival in late May. CBC records at Old Warden with six pairs was the highest since 1985 (BN). The last migrant was at Rookery CIP on 13 September.
- Ring-necked Parakeet** *Psittacula krameri* One at Southill on 24 March and two at Chalton SW on 14 October.
- Cuckoo** *Cuculus canorus* The first of the year was on 1 April at Maulden Wood followed by a general arrival later in the month. Widespread in May–June with the final sighting at South Mills NR on 18 August. At Old Warden CBC plot only two males were noted.
- Yellow-billed Cuckoo** *Coccyzus americanus* A first winter bird was found dead in the gardens of the RSPB at The Lodge, Sandy on 6 December (MK WEO). This unprecedented occurrence will be a first for the county if accepted by the BBRC.
- Barn Owl** *Tyto alba* Noted in the breeding season at nine localities including the traditional Willington Dovecote site. Elsewhere outside the breeding season recorded at Coopers Hill, Potton, Haynes, Cardington, Gravenhurst, Bletsoe, South Mills NR, Upper Caldecote, Brickhill, Sandy, Priory CP, Clophill, Stagsden, Sharnbrook and at Aspley Guise where three road casualties were found in September–October; three other roadside corpses were received at Bedford Museum (RB).
- The status of this superb owl in Bedfordshire is unclear, due in part to random releases, but from Atlas fieldwork data it probably numbers up to 20 pairs. Please forward any details on captive bred owls and their release sites.
- Little Owl** *Athene noctua* Recorded at 30 localities across the county with confirmed breeding at South Mills NR, Houghton Regis ChP, Old Warden, Barton, Clophill, Woburn Park, SP95Q and SP94T.
- Tawny Owl** *Strix aluco* The commonest owl, although poorly recorded with breeding noted at only three sites. Well watched birds at Legrave Marsh and Bramingham Woods.



ANDREW P. CHICK

Barn Owl

(Andy Chick)

- Long-eared Owl** *Asio otus* A pair bred at one traditional site raising two-three young. Two separate winter roosts contained three-four and up to eight birds respectively. Of 70 pellets collected at one site and 10 dissected the Short-tailed Vole was the main prey item followed by Wood Mouse and Bank Vole (RB JG PT).
- Short-eared Owl** *A. flammeus* Singles as follows: Barton on 1 January (BRS): Blows Downs, 31 March (BC); Barton Hills, 28 April (TD); Dunstable Downs, 19 May (PTo); Clophill, intermittently 4 November-16 December (PSo); and South Mills NR area on eight dates between 2 November-18 December (PO).
- Nightjar** *Caprimulgus europaeus* One-two 'churring' males in the Aspley/Wavendon Heath area from 7 June-14 August.
- Swift** *Apus apus* First arrivals at South Mills NR on 29 April with movement of c50 on 5 May and a strong passage across the county by mid-month. A late flock of c30 moved high over Dunstable on 8 September but were easily beaten by three extremely late birds over Blows Downs on 26 October (MP).
- Kingfisher** *Alcedo atthis* A remarkable success story, brought about by a run of mild winters and, perhaps, improving water quality in our rivers and still waters. With 234 records received from almost every stretch of water in the county this species was the most reported bird. Sites where it was noted almost daily were Stewartby Lake (DJO), South Mills NR (PO), Leagrave Marsh, Priory CP (DK), Tiddenfoot GP (PM), Clophill (PSo) and South Mills NR (PO). Obscure records include two birds in Bramingham Wood by the pond, and juvenile ringed at South Mills NR which was recovered dead near Saffron Walden, Essex having moved 38km east in 16 days.
- Roller** *Coracias garrulus* One seen near Arlesey on 3 May at TL192 387 was a new county record (NB). This record has been accepted by BBRC.
- Wryneck** *Jynx torquilla* One at Main Road, Biddenham on 15 September (EP).
- Green Woodpecker** *Picus viridis* Recorded from 15 localities, mainly along the Greensand Ridge.
- Great Spotted Woodpecker** *Dendrocopos major* The commonest woodpecker in the county, although under-recorded. South Mills NR had the suggestion of an autumn movement with two in November and one in early December.
- Lesser Spotted Woodpecker** *D. minor* Recorded at Maulden Wood, Clophill, Eversholt Lake, Priory CP, Whipnade Zoo, Old Warden, Woburn, Charle Wood, Deepdale Wood, Stockgrove CP, and the only confirmed breeding record at SP95K (RD).

### Passerines

- Skylark** *Alauda arvensis* Passage noted in early October at Pulloxhill; Priory CP, 201 south on 21st; Bromham and Dunstable SW. A flock of c120 near Stewartby Lake on 9 December. At Old Warden CBC plot only two pairs bred compared with 19 pairs in 1973, the reason for the decline could be due to a change of crop to oil-seed rape (BN).
- Sand Martin** *Riparia riparia* The first at Shefford on 3 March was soon followed by three at Radwell GP on 9th and the main arrival later in the month. Six birds at the Aspley Heath colony on 18 March were early, where eventually 15 pairs bred. Peter Smith's annual census revealed: Grovebury Farm SP, 10 pairs; A5 Heath and Reach SP, 40 pairs; Aspley Heath, 15 pairs; Arnolds SP, Leighton Buzzard, 65 pairs at two colonies; Mentmore Road SP, 110 pairs and Leighton Buzzard Golf Course, 35 pairs; in total approximately 265 pairs (PS). At Willington GP c10 pairs bred. The final migrants (16) were at Priory CP on 3 October.
- Swallow** *Hirundo rustica* A very early sighting at Harrold CP on 25 February with the main passage two months later across the county. At Priory CP, c100 on 12 May, and a late migrant at Dunstable SW on 11 November.
- House Martin** *Delichon urbica* The first of the year were at Dunstable SW and Priory CP on 26 April which was late with the main arrival a month later. A strong passage was noted at Priory CP through September, peaking at 150 on 25th, with the final sighting on 17 October.
- Tree Pipit** *Anthus trivialis* A singing male at Aspley Heath on 14 April was the first of the year where eventually six pairs bred. Elsewhere noted at only three breeding sites (surely under-recorded) at Maulden Wood, Ampthill Park, and Stockgrove CP. On return passage, nine

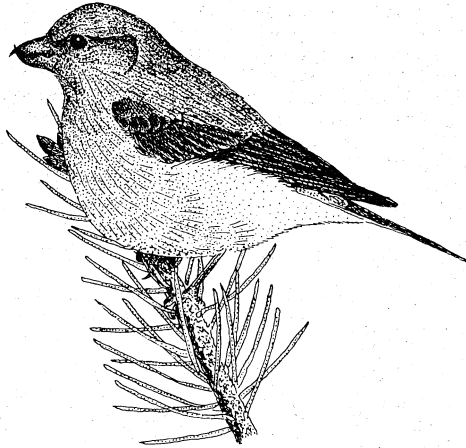
- over Battlesden Lake on 18 August, one over Whipsnade Zoo on 9 September and a final one over Houghton Regis ChP on 16th.
- Meadow Pipit** *A. pratensis* Breeding recorded at Blows Downs, Dunstable Downs and Rookery CIP. Spring passage noted in March at Blows Downs with 120 on 25th and at Priory CP with a top count of 35 on 3rd. A small October passage was noted at Grovebury Farm SP and Priory CP.
- Yellow Wagtail** *Motacilla flava* Widely recorded across the county with the first record over Blows Downs on 28 March followed by a more general arrival a week later. Large numbers of note included c40 at Dunstable SW on 19 April, 34 at Priory CP on 17 April, 24 at Stewartby Lake on 19 April, and 33 at Grovebury Farm SP on 19 August. A garden passage bird at Woburn on 4 August was unusual, and the last migrant was at Battlesden Lake on 7 October. Birds of the Blue-headed race *M. f. flavissima* were noted at Dunstable SW on 22nd and at South Mills NR on 22nd April and 7 May.
- Grey Wagtail** *M. cinerea* Breeding noted at Clophill, Bromham Mill, Chalton SW, Turvey and New Road GP, Sandy. Elsewhere widely reported from all the main wetland sites with a passage in September.
- Pied Wagtail** *M. alba* A strong April passage at Priory CP peaking at 50 on 17th. A winter roost of c100 at Cardington abattoir in March. White Wagtails *M. a. alba* noted in the spring at Dunstable SW, Priory CP, Harrold CP, Radwell GP and South Mills NR.
- Waxwing** *Bombycilla garrulus* One at Woodside, Caddington on 22 November (MH).
- Wren** *Troglodytes troglodytes* Population stable according to CBC results at Old Warden (BN).
- Duncock** *Prunella modularis* At the Old Warden CBC plot, 25 pairs bred which was the lowest count since records began in 1973 (BN). CES results at Waterloo Thorns proved stable with many late broods recorded (EN). A partial albino was recorded at Elden Avenue, Luton in December.
- Robin** *Erithacus rubecula* The Old Warden CBC plot recorded 26 singing males (BN), the lowest since 1985, and at Waterloo Thorns CES a high adult survival rate from the 1989/90 winter was noted (EN). At Haynes one was seen hovering Blue Tit fashion pecking at a piece of hanging fat.
- Nightingale** *Luscinia megarhynchos* Passage birds were noted at Stewartby Lake, one from 27 April-15 May with two on 16th; Twin Bridges GP, one on 14 May. Singing males recorded at breeding sites as follows: Potton Wood (5), Everton (6), Old Warden (2), Home Wood (2), West Wood (2), and at Little Catsey Wood (1) where the last bird was heard on 15 July.
- Black Redstart** *Phoenicurus ochruros* A male at Rookery CIP on 18 March (SDN) and a female on Blows Downs on 29 April (MW).
- Redstart** *P. phoenicurus* Blows Downs had the first migrant on 6 April, with a gap until 19th when two arrived followed by one on 20th, two on 21st, and singles on 22nd, 26th, and 28th (per RD). Spring migrants also noted at Broom on 20 April and at Round Green, Luton on 3 May. In the west of the county in the Wavendon Heath/Charle Wood complex at least nine singing males were recorded in breeding habitat (RAN PS). In the autumn, single passage birds at Everton on 24 August, Woburn Park on 15 September, Whipsnade Zoo on 6 October and finally at Blows Downs on 10 October.
- Whinchat** *Saxicola rubetra* Spring passage was very poor with no records from Blows Downs despite near daily coverage. However, two at Houghton Regis ChP on 10 March and one at Radwell GP on 25th were extremely early, elsewhere singles in late April and May at Millbrook, Whipsnade Zoo and Houghton Regis ChP. In the autumn a light passage through Blows Downs from 17 July-20 September on 14 days with a maximum of three on 17 July and 23 August (MP). Elsewhere noted at Queens Park, Bedford, Rookery CIP, South Mills NR, Dunstable SW, Houghton Regis ChP, Luton Hoo and finally at Grovebury Farm SP on 7 October.
- Stonechat** *S. torquata* At Stewartby Lake two seen intermittently until 10 February with a single from 25 November. One at Dunstable SW on 1 January seen there and at Houghton Regis ChP until 22 February and another on 11 November. Elsewhere singles at Legrave Marsh on 21 October, South Mills NR on 26 October and New Road GP, Sandy on 9 November.

- Wheatear** *Oenanthe oenanthe* The spring passage on Blows Downs was a protracted one, although numbers were slightly down on past years. However, birds were recorded on 47 days between 10 March-1 May, with a late March surge peaking at 13 on 28th (per RID). Elsewhere in the county widely reported during the period with the final sighting at Rookery CIP on 19 May. Two individuals of the Greenland race *O. o. leucorhoa* were noted at South Mills NR on 5 May. Returning birds noted at 13 localities from Mogerhanger on 27 July until 28 October at Southill Park.
- Ring Ouzel** *T. torquatus* Now firmly established as a Bedfordshire speciality at Blows Downs. This year's passage was a fragmented affair with one on the 22 March; two on 30th; and singles in April on seven days from 12th-24th. There then followed the main passage with two birds per day from 25-30 April with three on 26th and finally singles on 2 and 3 May (per RID). Elsewhere recorded at Whipsnade Zoo on 30 April, 2 May and 9 September (CT), and a late bird at Beeston on 4 November (DS).
- Blackbird** *T. merula* The CES at Everton recorded low numbers for the second successive summer (EN). At Lea Manor, Luton a full albino was of note.
- Fieldfare** *T. pilaris* During the first winter period numbers were generally low with c100 noted at Luton Hoo, East Hyde, Millbrook, Aspley Guise and Battlesden. The final spring migrant was noted at Sheerhatch Wood on 12 May. First to return was one at Pegsdon Hills on 30 September where in December c200 were noted, nearby Butterfield Green held 750 on Christmas Eve along with 200 at Galley/Warden Hill. An October passage was noted at Blunham, Milton Bryan, Chicksands Wood and Stewartby Lake with a top count of 300 at Priory CP on 4 November. Other notable late winter flocks of c100 at Barton and Grovebury Farm SP.
- Song Thrush** *T. philomelos* At Waterloo Thorns, Everton, recorded nesting into September.
- Redwing** *T. iliacus* No large winter flocks reported. The last spring sighting was at Priory CP on 14 April. First to return was one at Whipsnade Zoo on 26 September followed by a noticeable passage on 9-10 October at Blunham, Priory CP and at Blows Downs where c1000 moved west on 10th.
- Mistle Thrush** *T. viscivorus* The only count of note received was 18 at South Mills NR on 6 February.
- Grasshopper Warbler** *Locustella naevia* First recorded at Old Warden on 14 April followed by one at Blows Downs on 19 April and on four dates until 29th. Also noted on passage at South Mills NR, Leagrave Marsh, Clophill and Brogborough Lake. 'Reeling' males at breeding localities noted at Old Warden (3), Home Wood (5), Warden Little Wood (5), Warden Great Wood (2), Knotting Green (8), Wilstead Wood (1), Pirton Hall (1), Maulden Wood (2), and at Waterloo Thorns (1) where a female was trapped on 5 August.
- Sedge Warbler** *Acrocephalus schoenobaenus* First recorded at Priory CP on 6 April with 28 singing males counted on 28th. Elsewhere a light late April passage on Blows Downs, and by 31 May 29 birds had been trapped at South Mills NR. Autumn passage commenced at the latter site in early July with a peak of 33 in mid-month and the final migrant on 16 September (PO).
- Reed Warbler** *A. scirpaceus* Priory CP claimed first and last records on 28 April and 3 October respectively with 15 singing males on 14 May (DK). Elsewhere breeding recorded at Houghton Regis ChP (14-15), Battlesden Lake (8), Bromham Lake (2) and Rookery CIP. One at Whipsnade Zoo on 11 July was a site first.
- Lesser Whitethroat** *Sylvia curruca* One at Blows Downs on 21 April followed by a light passage into early May. Breeding pairs at Old Warden CBC (15) were the highest since recording began in 1973 (BN) and the Waterloo Thorns CES reported a good fledgling success rate (EN). The autumn passage finally finished at Priory CP on 22 September. A female at Leagrave Marsh on 4-9 December was one of the most unusual records of the year and the only winter record for the county (AW RID).
- Garden Warbler** *S. borin* A single at Totterhoe Knolls on 30 April was first followed by one on Blows Downs on 1 May and a noticeable fall on 2nd. Breeding numbers were slightly down at Old Warden CBC plot (BN) and stable at Waterloo Thorns CES (EN). Return passage was noted through South Mills NR from 16 July-6 August (PO) and the final migrant was at Leagrave Marsh on 22 September.
- Blackcap** *S. atricapilla* A widespread spring arrival from 31 March at several localities into early April. Breeding numbers appeared normal and the usual protracted autumn passage was



noted at South Mills NR until 2 October. Winter records came from Barton on 22 February and Chalton SW on 16 December.

- Wood Warbler** *Phylloscopus sibilatrix* A good year for this superb songster with the first record at Stockgrove CP on 29 April (PT), followed by one at Whipsnade Zoo on 6 May (CT), another at Willington Wood on 7 May (MJP) and one on Pegsdon Hills for 10 days from 27 May (JP). All the previous sites were rechecked without success, therefore all probably relate to passage birds. At the traditional Aspley Heath site presence noted from 8 May–29 July (PS *et al.*) and one noted at Odell Great Wood on 15 July (PT). On return passage a single trapped at South Mills NR on 14 August was a site first (PO) and one also noted at Battlesden Lake on 18th (PS).
- Chiffchaff** *P. collybita* The first migrant was at Kempston on 3 March followed by an impressive countywide arrival on 10th–14th and a fall of 10 singing males at Blows Downs on 20th. On 29 April c20 males singing at Stockgrove CP and at Old Warden CBC plot a record 14 pairs outnumbered Willow Warbler for the first time since records began in 1973 (BN). A larger than usual autumn passage was noted at Priory CP with a peak of 16 on 16 September (DK) where at least one bird remained until 22 December. Other winter records came from Stewartby Lake, Leagrave Marsh and Tiddenfoot CP.
- Willow Warbler** *P. trochilus* The first was early at Luton on 12 March, followed by two trapped at South Mills NR on 19th and a widespread arrival in early April. At Old Warden CBC plot numbers dropped to 11 pairs (BN) but at Waterloo Thorns CES breeding was stable (EN). September passage was widespread with the last bird at Dunstable SW on 7 October.
- Goldcrest** *Regulus regulus* Spring passage noted at Blows Downs on 18 days between 17 March–16 April (RD *et al.*) and in the autumn from 9 September–8 November at South Mills NR (PC).
- Firecrest** *R. ignicapillus* One at Brogborough Lake 4–5 March (RAN *et al.*) followed by singing males at Whipsnade Zoo on 25 May and 2 June (CT) and at Flitwick Manor on 28–29 May (PT).
- Spotted Flycatcher** *Muscicapa striata* The first migrant was at Blunham on 30 April and the last at Whipsnade Zoo on 24 September.
- Pied Flycatcher** *Ficedula hypoleuca* A single female noted in Maulden Wood prior to the Society's dawn chorus meeting of 5 May was the year's only record (PM *et al.*).
- Long-tailed Tit** *Agithalus caudatus* At Old Warden CBC plot 11 singing males was the highest ever since records began in 1973 (BN) and at Priory CP a good breeding season was noted with a flock of 29 on 11 November (DK).
- Marsh Tit** *Parus palustris* Widely reported during fieldwork for the new breeding bird atlas (per RD).
- Willow Tit** *P. montanus* Regularly noted at Blows Downs, Maulden Wood, Kidney Wood, Flitwick Moor, Whipsnade Zoo and Stockgrove CP with records from a further 10 sites.
- Coal Tit** *P. ater* A flock of 40 at New Wavendon Heath was of note (PS).
- Blue Tit** *P. caeruleus* Breeding numbers slightly down at Old Warden CBC plot to 33 (BN) and also down at Waterloo Thorns CES (EN). A flock of c30 at Stockgrove CP on 4 February.
- Great Tit** *P. major* No significant changes in breeding numbers at either Old Warden CBC or Waterloo Thorns CES.
- Nuthatch** *Sitta europaea* Atlas fieldwork revealed presence in three tetrads in SP95 where it is considered to be scarce (RD).
- Treecreeper** *Certhia familiaris* Breeding numbers appear to be stable.
- Golden Oriole** *Oriolus oriolus* One heard at Everton on 29 May (AC) plus several unconfirmed reports in the Sandy area in late May.
- Great Grey Shrike** *Lanius excubitor* One at Priory CP on 12–13 January and 11–12 February (DK) with probably the same bird briefly at South Mills NR on 15 February (PO). One on Biggleswade Common on 3 December (PO).
- Jay** *Garrulus glandarius* Population stable.
- Magpie** *Pica pica* An adult noted in Luton Hoo on 23 October exhibited a bright yellow bill (AJL).
- Jackdaw** *Corvus monedula* A count of 120 at East Hyde on 26 February (BRS).
- Rook** *C. frugilegus* Large numbers wintered in the clay pits feeding on the refuse tips.
- Carrion Crow** *C. corone* A count of 23 near Bromham Lake on 28 April was of note (PA). At Radwell GP one was seen to drop a fresh water mussel from c100ft onto stones, swoop down and eat the contents (DVM).
- Starling** *Sturnus vulgaris* Winter roost numbering several thousands noted at Renhold and Luton Town centre. As a breeding species numbers dramatically down in woodland areas and at



Crossbill

(Andy Chick)

Fairfield Hospital young were noted in the nest on 8 November.

**House Sparrow** *Passer domesticus* Population stable.

**Tree Sparrow** *P. montanus* Breeding season records from: Galley Hill, where present all year in small numbers 6-10; Broughton End, 10 in May; Petsoe (SP94J), three small colonies; East End (SP94M), one colony of three pairs; Lower Wood (SP94F); Chapelclose Spinney (SP94G); and West End Farm (SP94T) and Barton Hills. Elsewhere noted outside breeding season at Willington GP (8), Sundon (6), Westoning (4), Stewartby Lake (3), Houghton Regis ChP (c30), Dunstable SW (2), Pulloxhill (3), Greensand Farm (10), Knotting (c25), and at Blows Downs (1).

**Chaffinch** *Fringilla coelebs* An autumn passage noted through Priory CP in second week of October. At Luton flocks of several hundred at Legrave Marsh and Popes Meadow during the second winter period.

**Brambling** *F. montifringilla* In the first winter period singles noted at Woburn Park and Swiss Gardens in January; at South Mills NR, six from 6-12 March; and finally one on passage at Blows Downs on 24 April. First to return were two at Whipsnade Zoo on 21 October with four-six until the end of the year. Elsewhere noted at: Legrave Marsh, up to 15 in December; Lewsey Farm, Luton, single in November; Popes Meadow, Luton, maximum of five in December; and Pegsdon Hills, 12 in November with one or two in December.

**Greenfinch** *Carduelis chloris* A roost of c120 at Houghton Regis ChP in December was of note (NRF).

**Goldfinch** *C. carduelis* The largest reported flock was c20 at Rookery CIP in August/September (PA).

**Siskin** *C. spinus* The largest recorded flock was c75 at Eversholt Lake in February. Other notable counts were 22 at Whipsnade Zoo in December, c20 at Legrave Marsh and Clophill also in December, and 25 at Aspley Heath in March. A March passage noted at several back garden localities with records received from six other wintering localities of numbers less than 10. Extreme dates were 13 April and late September at Woburn, and a bird was noted in suitable breeding habitat at Odell Great Wood in July.

**Linnet** *C. cannabina* Large flocks as follows: c100 at Priory CP in December; 80 and 75 at Grovebury Farm SP in March and October respectively; c50 near Leighton Buzzard (SP92B) in September; and a winter roost of c60 at Houghton Regis ChP in both periods.

- Redpoll** *C. flammea* No large flocks reported. Breeding season records from Priory CP, South Mills NR, Dunstable, Renhold, Flitwick and Stewartby Lake.
- Crossbill** *Loxia curvirostra* In January five at Wrest Park and Maulden Wood with six at the latter site on 11 February. A summer influx noted with 42 at Aspley Heath on 11 June, for about two weeks, and 14 at Whipsnade Zoo also on 11th when singles were noted on 12 July and 4 September with seven on 25th. Elsewhere as follows: Waterloo Thorns, seven on 21 July; Woodbury Estate, Everton, four on 15 July; Bromham, up to seven, but mainly one or two seen in late September; Everton, one on 16 September; Chicksands Wood, five on 29 October; Maulden Wood, 10 on 4 November and nine on 29 December; and one on 1 December in Aspley Heath area flocks of 39, 12 and 100 plus noted.
- Bullfinch** *Pyrrhula pyrrhula* Only two pairs bred at the Old Warden CBC plot which continues the downward trend there (BN).
- Hawfinch** *Coccothraustes coccothraustes* Noted during the breeding season at Stockwood Park, Kidney Wood, Dunstable Downs, Stockgrove CP and Warren Wood. Elsewhere three at Wrest Park on 20 January and one at Maulden Wood on 11 February.
- Yellowhammer** *Emberiza citrinella* No large counts received. At Old Warden CBC plot only seven pairs bred, the lowest since recording began in 1973 (BN).
- Reed Bunting** *E. schoeniclus* Increasingly noted nesting in Oil-seed Rape. At Houghton Regis ChP c150 roosted during January and 200-250 in December (EN).
- Corn Bunting** *Miliaria calandra* Recorded in breeding season at Grovebury Road SP, Houghton Regis ChP, Warden/Galley/Barton Hills, South Mills NR, Potton, Staploe, Flitwick, Stagsden, Northill, Moggerhanger and Biggleswade. At Houghton Regis ChP c100 roosted in the first winter period with c150 during the second winter period (NRF). Elsewhere c70 at Knotting in January on 'set aside', and c20 at Dunstable SW.

#### MISCELLANEOUS RECORDS

- Whooper Swan** *Cygnus cygnus* One in the Blunham/Girtford/South Mills area all year.
- Black Swan** *C. olor* One at Harrold CP on 21 February and one at Dunstable SW/Houghton Regis ChP 4-18 November.
- Bar-headed Goose** *Anser indicus* One in the Marston Vale all year was noted mainly at Stewartby Lake and Rookery CIP with two on 25 August and 2-5 October. Elsewhere a single at Radwell GP in February and at Luton Hoo in April.
- Swan Goose** *A. cygoides* One at East Hyde on 15 February.
- Snow Goose** *A. caerulescens* A blue phase morph at Radwell GP January-February.
- Canada × Greylag** *Branta × Anser* One in the Stewartby Lake area all year with five at Rookery CIP in September.
- Cape Shelduck** *Tadorna cana* A drake at Cuckoo Bridge GP on 11 February and another at Dunstable SW from 3 July-18 November.
- Chiloe Wigeon** *Anas sibilatrix* An adult at Luton Hoo on 8 January and one at Radwell GP on 29 January and 24 June.
- Bahama Pintail** *A. bahameisis* One at Brogborough Lake on 18 February.
- Wood Duck** *Aix sponsa* A drake at Priory CP or along the River Ouse in Bedford Town centre from 4 March onwards into 1991. One at Luton Hoo 23-25 January.
- Smew** *Mergus albellus* Two drakes at Twin Bridges GP in December were considered to have originated from the Blunham collection.
- Chukar** *Alectoris chukar* Noted at South Mills NR, Swiss Garden and near Biggleswade.
- Alexandrine Parakeet** *Psittacula eupatrix* One at Harrold CP on 27 January.
- Glossy Starling** *Lamprolaima purpurea* One at Home Farm, Haynes on 31 May-1 June.

#### ADDITIONS TO 1981 REPORT

- Ring Ouzel** *Turdus torquatus* A male at South Mills on 28 February (RIB).

**SELECTED FIRST AND LAST DATES**

**Summer Migrants**

<b>Species</b>	<b>Arrival</b>	<b>Departure</b>
Hobby	Dunstable SW 22 April	Kempston 14 October
Little Ringed Plover	South Mills NR 19 March	Dunstable SW 27 August
Greenshank	Stewartby Lake 29 April	Rookery CIP 9 September
Common Sandpiper	Priory CP 18 April	Houghton Regis ChP 23 September
Little Gull	Stewartby Lake 22 April	Radwell GP 16 November
Common Tern	Priory CP 17 April	Stewartby Lake 21 September
Arctic Tern	Stewartby Lake 13 April	Priory CP 24 September
Black Tern	Stewartby Lake 30 April	Stewartby Lake 4 September
Turtle Dove	Houghton Regis ChP 10 March	Rookery CIP 13 September
Cuckoo	Maulden Wood 1 April	South Mills NR 18 August
Swift	South Mills NR 29 April	Blows Downs 26 October
Sand Martin	Shefford 3 March	Priory CP 3 October
Swallow	Harrold CP 25 February	Dunstable SW 11 October
House Martin	Dunstable SW 26 April	Priory CP 17 October
Tree Pipit	Aspley Heath 14 April	Houghton Regis ChP 16 September
Yellow Wagtail	Blows Downs 28 March	Battlesden Lake 7 October
Nightingale	Stewartby Lake 27 April	Little Catsey Wood 15 July
Redstart	Blows Downs 6 April	Blows Downs 10 October
Whinchat	Houghton Regis ChP 10 March	Grovebury Farm SP 7 October
Wheatear	Blows Downs 10 March	Southill Park 28 October
Ring Ouzel	Blows Downs 22 March	Beeston 4 November
Grasshopper Warbler	Old Warden 14 April	Waterloo Thorns 5 August
Sedge Warbler	Priory CP 6 April	South Mills NR 16 September
Reed Warbler	Priory CP 28 April	Priory CP 3 October
Lesser Whitethroat	Blows Downs 21 April	South Mills NR 7 September
Whitethroat	Blows Downs 28 April	Leagrave Marsh 9 December
Garden Warbler	Totternhoe Knolls 30 April	Leagrave Marsh 22 September
Wood Warbler	Stockgrove CP 29 April	Battlesden Lake 18 August
Willow Warbler	Luton 12 March	Dunstable SW 7 October
Spotted Flycatcher	Blunham 30 April	Whipsnade Zoo 24 September

**Winter Migrants**

<b>Species</b>	<b>Departure</b>	<b>Arrival</b>
Goldeneye	Brogborough Lake 14 April	Brogborough Lake 28 October
Goosander	Priory CP 9 April	Harrold CP 17 November
Golden Plover	Thurleigh 20 May	Rookery CIP 15 September
Jack Snipe	South Mills NR 19 April	Houghton Regis ChP 10 September
Fieldfare	Sheerhatch Wood 12 May	Pegsdon Hills 30 September
Redwing	Priory CP 14 April	Whipsnade Zoo 26 September
Brambling	Blows Downs 24 April	Whipsnade Zoo 21 October
Siskin	Woburn 13 April	Woburn 'late' September

PAUL TRODD

## BEDFORDSHIRE BREEDING BIRD ATLAS 1988-1992 PROGRESS REPORT—1990

by R.A. Dazley

By the end of the 1990 breeding season very pleasing progress on the county tetrad atlas had been made, and there are now only 47 (12%) of the 377 tetrads left with no records at all. Of these 47 all but 12 are north of Bedford, a situation which explains why virtually everyone will be travelling northwards to their tetrads in 1991.

The provisional method of standardisation that was being used, with observers carrying out a minimum of five hours fieldwork in each tetrad, has proven to be unsatisfactory, with different observers showing markedly different results and has therefore been shelved. A new criterion is being used, based on the theory that if a number of common species have not been recorded then there will be a corresponding number of the scarcer species that have been overlooked. A list of the 29 most common species has been extracted from the first county atlas, these are the species that were recorded from 70% or more of the county. Any tetrads that show ten or more of these birds missing in the current atlas have joined the 47 unrecorded areas as priority squares for next year's fieldwork. This method is not regarded as the ultimate, and various other ideas are being incorporated into our plans. Our neighbours, Hertfordshire, are also looking at the question of coverage and we have benefited from listening to their ideas on the subject.

Close contact is being maintained with both Hertfordshire and Cambridgeshire who are doing tetrad atlas fieldwork and we are successfully continuing the policy of mutual assistance.

Again thanks are due to all members who returned the questionnaires with information concerning birds that are breeding around their homes. These records often fill in important gaps in the urban areas where it is difficult to persuade someone to survey. Bedford in particular is still showing many omissions, so if you live in that area please help by submitting your back garden breeding bird records via the county recorder.

The summer of 1990 was a hot one but not especially distinguished in bird terms (no repeat of the 1989 Quail arrivals). There were, however, three noteworthy highlights—Barnacle Geese finally bred in Bedfordshire with a pair raising young in one of the brickpits. A very young Cormorant was seen on a flooded sand pit near Leighton Buzzard, suggesting there may have been breeding locally, further proof will undoubtedly be searched for next year. Finally two Curlews were seen through most of May frequenting an airfield in the county, there was no evidence of breeding but the situation will no doubt be monitored in 1991 as the species is apparently extending its breeding range into surrounding counties.

May I thank all of you who have done some fieldwork and call upon those of you not yet involved, but interested, to contact me to find out how to help in this very important survey.

*Address: 71 Carterweys, Dunstable, Beds LU5 4RB*

### BREEDING BIRD NOTES

by R.A. Nye

#### POCHARD

##### Vicarage Pit

Sunday, 17.6.90—Located a Pochard with three very small young. The drake was nowhere to be seen. The female was very attentive, allowing no other wildfowl near the young. It was amazing to watch the young actually dive feeding, continuously.

All three young survived and were observed until 14th August.

Also recorded in Vicarage Pit during the above period—

Pair Ruddy Duck	—	3 young
Pair Mute Swan	—	4 cygnets
Pair Yellow Wagtail	—	3 or 4 young located at flying stage still with parents

Although the pit is unfortunately being infilled, the small areas of water with the reed beds still hold a good variety of wild life, including hunting Hobbies.

**BARNACLE GOOSE**

**Rookery Clay Pit**

- 12.5.90—Two pairs Barnacles located nesting on two of the small islands. Both birds brooding (sitting).
- 17.5.90—One of the Barnacle pair has deserted the nest. Probable disturbance from the local foxes, who have three cubs. Fortunately the other pair looks safe. The island is further out from the main land.
- 27.6.90—Located a single gosling at the Barnacle nest. Checked the site most evenings. All O.K. apart from 10.6.90 when I could not locate any of the family. Obviously still there but not located.
- 17.6.90—Obtained some good shots of the adults with the gosling now well grown.
- 24.6.90—Parents and gosling O.K.
- 5.7.90—Gosling reaching full size. Good record for Beds. Probably first Barnacle reared in free state.

**HERRING GULL**

30.4.90—Visit to Chimney Corner CIP to check Common Tern and Black-headed Gulls nesting on the islands.

More interesting were a pair of Herring Gulls actually building a nest on the corner of one of the islands, about half way up the rock from the water. They had chosen a ledge apart from the Black-headed Gulls.

5.5.90—Checked Herring Gulls. A bird definitely brooding.

18.5.90—Checked Herring Gulls. Still there—no problems. Checked regularly up to 4th June before going to Wales.

On the 4th June when I arrived at the pit, I could not locate either parent. After a few minutes, one of the parents returned, stood on the ledge. Using the telescope I could clearly identify a single chick being fed. The parent remained at the nest.

On return from Welsh trip I checked the gulls, still here, confirmed just one youngster. Quite big now. I checked the location upto 14th July. The bird now juvenile stage. Dark mottled brown plumage.

**WATERWAYS BIRD SURVEY**

**by J.T.R. Sharrock**

Results of the Waterways Bird Survey, 1981-90, along the Ivel Valley between Twin Bridges GP (TL155519) and South Mills Bailey Bridge (TL157502)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Little Grebe	1									
Mute Swan	1	1	1	2	1	1		1		1
Mallard		2	3	2	1	2	1	1	2	6
Shoveler			1							
Tufted Duck			1	1		2				2
Moorhen	3	4	4	7	7	6	5	4	5	7
Coot							1			
Ringed Plover					1		1			
Little Ringed Plover					1					
Lapwing							2			
Redshank					1	1				
Common Tern						1				
Kingfisher				2	1	1	1	1	3	3
Yellow Wagtail	2		1		2					
Grey Wagtail				1						
Pied Wagtail	4	2	3	2	1	1		1	2	2
Sedge Warbler	19	22	23	24	14	19	25	35	31	25
Reed Warbler	4	2	7	9	6	4	6	2	4	6
Whitethroat	1	1				1		1	1	
Reed Bunting	9	6	6	5	4	5	4	7	5	3

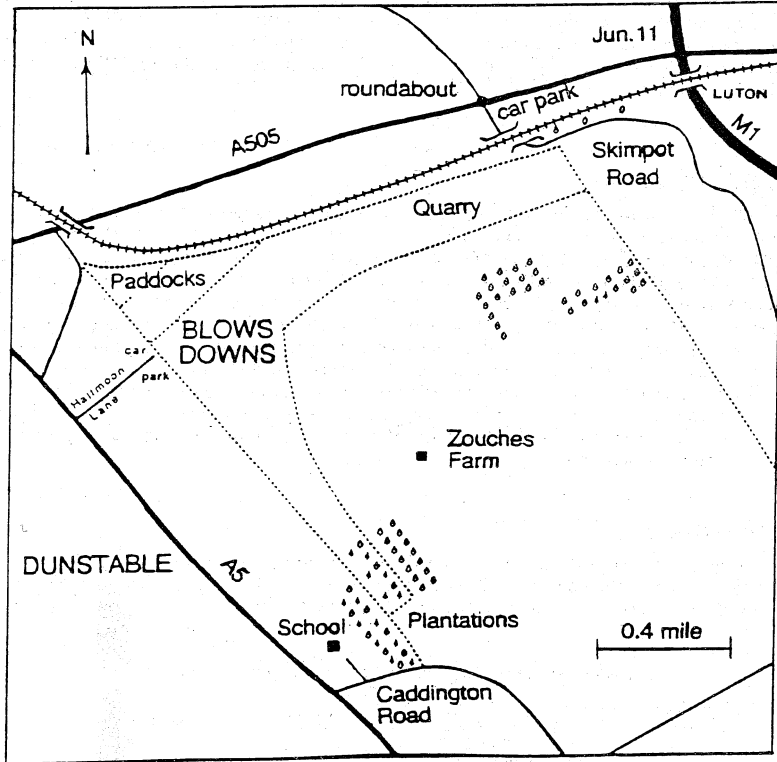
Address: Fountains, Park Lane, Blunham, Bedford MK44 3NJ

## BLOWS DOWNS SPRING MIGRATION WATCHPOINT 1985–1990

by R.A. Dazley

### INTRODUCTION

The area of chalk downland known locally as Blows Downs was first realised to be of some importance as a migration watchpoint in the late 1970s and early 1980s. It was not until the mid-eighties that the idea of keeping a detailed record of the spring passage actually got under way with the gathering of verbal records into a central log.



*Figure 1. Map of Blows Downs*

### BLOWS DOWNS

The area that has been closely watched throughout the study period, Figure 1, extends from TL 046220 west than WSW along the hill face to TL 033215, then south-east, again along the hill face, to TL 043202. Also included in the study area is a group of council owned paddocks which form a triangle in the north west extremity of the site between co-ordinates TL 030215—027218—034218.

*Address: 71 Carterweys, Dunstable, Beds LU5 4RB*

Modern Blows Downs is a mixture of varying density hawthorn scrub and open grazing land bordered to the north and west by urban development and to the south and east by arable farmland. The grazing is used by cattle along the hillside and by horses in the paddock area. There is a resident rabbit population but it is not considered large enough to have a major effect on the habitat.

### HISTORICAL RECORDING

An attempt has been made to discover more about the recent ornithological history of the site by contacting society members who were active during the 1950's and 1960's in the area. In general, there was either no passage through the site in the way we know it today or, more likely, no one was aware of it because their visits were usually later in the year. These were particularly in association with breeding Red-backed Shrikes, a species which last bred on Blows Downs in 1962.

The hawthorn cover was much thinner in that period and the paddock area was farmed for cereals. The species noted, Wheatear and Whinchat, were usually associated with the fencing that bordered the farmland plateau above the hillside.

### MODERN RECORDING

As birdwatchers within Bedfordshire became more aware of the species that were passing through the Blows Downs area each spring, the attention the site received increased. By the mid-eighties it was considered that coverage was thorough enough to enable regular data collation to be converted into a worthwhile study. The site is much better watched in spring than in autumn when the passage is harder to see. We do know, however, that some of the species return to their winter quarters along the same route — a topic which merits a study in its own right.

The numbers of species passing through the site became appreciated at a time when the passing of birdwatching information was being revolutionised by tape-recorded messages on national telephone lines. This led to a surge of popularity with people visiting the site that would not otherwise have done so and a corresponding increase in birds being reported. The last couple of years of the study have seen this trend tail-off, but the number of hours put in by site regulars has continued at a fairly constant rate.

### RECORDING PERIODS

The European standard five day period has been used as a method of recording to display the data gathered in the study period. This uses the five day period from 1st January to 5th January as period one, 6th January to 10th January as period two, etc. The periods of relevance to this report are given in Table 1.

*Table 1. European standard five day periods for the study*

Period No.	Dates	Period No.	Dates
14	7th–11th March	21	11th–15th April
15	12th–16th March	22	16th–20th April
16	17th–21st March	23	21st–25th April
17	22nd–26th March	24	26th–30th April
18	27th–31st March	25	1st–5th May
19	1st–5th April	26	6th–10th May
20	6th–10th April	27	11th–15th May

### ARRIVAL DATES

These obviously vary from year to year and are influenced by many factors, although a little surprisingly birds still appear in adverse weather conditions, often fighting through headwinds en-route to their breeding areas. An average date is given in Table 2 for each species over the period and the earliest and latest known arrivals are noted in brackets.

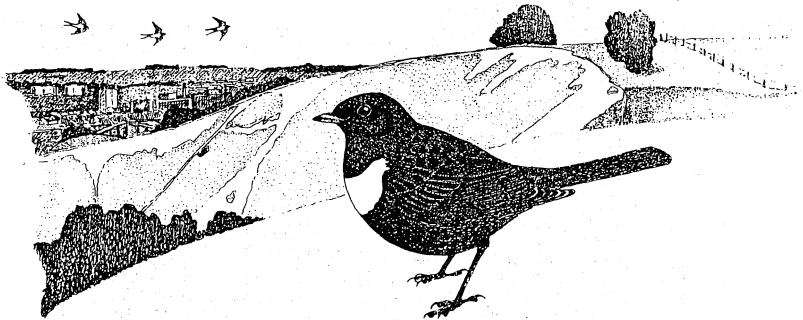


Table 2. Average, earliest and latest arrival dates, 1985-1990

Cuckoo	22nd April	(17th April-28th April)
Swift	5th May	( 2nd May-9th May)
Swallow	8th April	( 1st April-23rd April)
House Martin	26th April	(16th April-4th May)
Tree Pipit	15th April	(13th April-20th April)
Yellow Wagtail	14th April	(28th March-29th April)
Redstart	9th April	(31st March-18th April)
Whinchat	21st April	(16th April-30th April)
Wheatear	17th March	(10th March-26th March)
Ring Ouzel	26th March	(20th March-1st April)
Grasshopper Warbler	22nd April	(16th April-2nd May)
Lesser Whitethroat	24th April	(19th April-1st May)
Whitethroat	24th April	(16th April-2nd May)
Garden Warbler	28th April	(16th April-6th May)
Blackcap	5th April	(22nd March-20th April)
Chiffchaff	26th March	(19th March-3rd April)
Willow Warbler	1st April	(22nd March-17th April)
Spotted Flycatcher	4th May	( 1st May-7th May)

Many of the migrant species that are noted on Blows Downs are those which breed locally so that rather than using the site as a resting point on their journey, the site is actually their destination. This makes the assessment of species such as Chiffchaff, Willow Warbler, Lesser Whitethroat and Whitethroat difficult as one does not know whether single birds are passing through or staying. However, larger numbers are easier to interpret and "falls" of species can be detected.

As well as seeing the summer migrants arriving, it is also possible to record the departure of our winter migrants. The winter thrushes are both seen each year, Redwing have been seen up to 30th April while the latest Fieldfare record was 9th May. Of the four years in which Brambling have been observed the latest record is on 3rd May.



Ring Ouzel on Blows Downs

(Andy Chick)

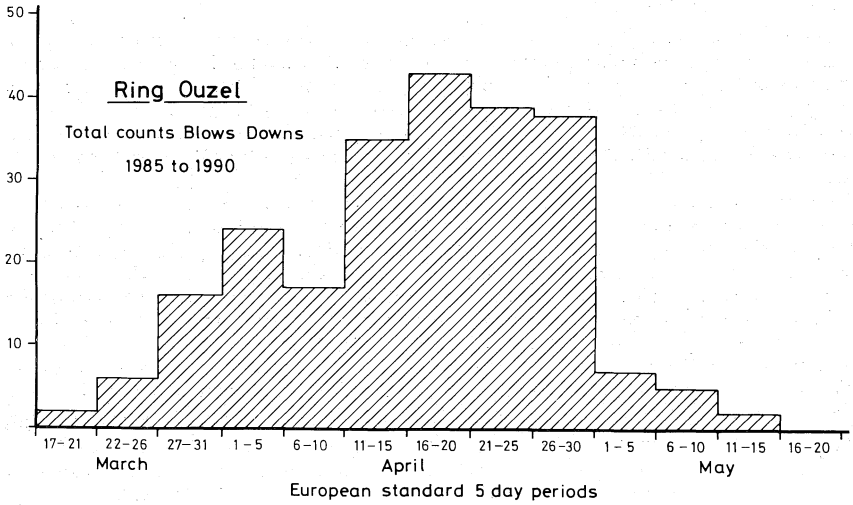


Figure 2. Ring Ouzel. Total counts, Blows Downs 1985-1990

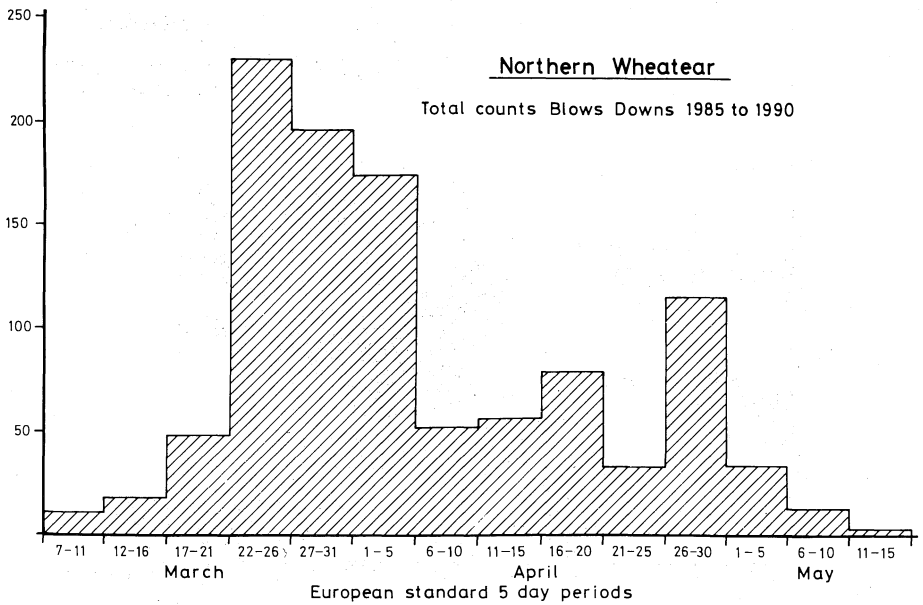


Figure 3. Northern Wheatear. Total counts, Blows Downs 1985-1990

### PASSAGE PATTERNS

The species that pass through Blows Downs are not restricted to that site in Bedfordshire. Many are seen in numbers regularly at other places around the county, the exception being the Ring Ouzel, a species for which Blows Downs is now one of the recognized inland sites in southern England. Over the study period the pattern for this species, Figure 2, is of two peaks, the first in period 19 is followed by a lull in period 20, then period 21 sees a doubling of numbers to a peak in period 22, then a gentle tail-off to period 24. This marks the end of the main passage with only stragglers seen subsequently.

Wheatears are widely seen on the spring passage but the escarpment of the downs acts as a concentrating factor so the numbers seen are often higher there, with a maximum of over 40 on 29th April 1989. The passage through the study period consists of two clear peaks, Figure 3, with males leading the way. Periods 18 and 19 are the two highest recorded, followed by a lower density passage until another peak in period 24. This second peak is nowhere near as large as the first one and includes birds of the Greenland race which swell the numbers of the nominate race. By period 26 the passage is, realistically, over with only stragglers seen subsequently.

Small numbers of Redstart breed in Bedfordshire, but it is not known if any of the birds of this species that are seen on Blows Downs fall into this category. This species is another where the sexes can be detected moving through at different times with the males reaching the breeding grounds first. The passage is at its maximum in the periods 22, 23 and 24 with a dramatic tail-off in period 25 (Figure 4).

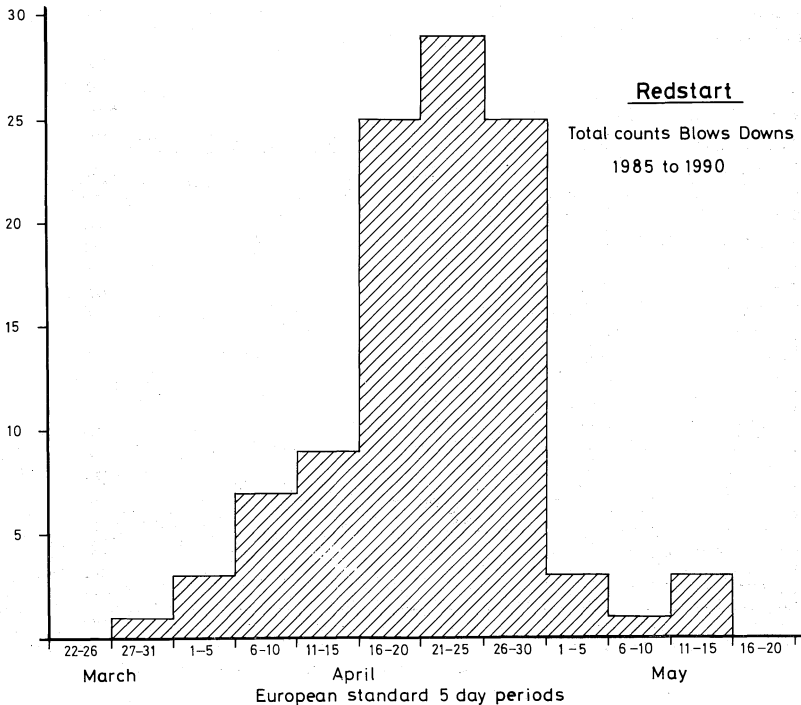


Figure 4. Redstart. Total counts, Blows Downs 1985-1990

Whinchats are different from all the other species that pass through the site in that their first appearance, in period 22, coincides with the peak passage (Table 3). This is followed in period 23 by a drop to less than half the number, then three periods of strong passage before an abrupt decline in period 27. During the spring of 1990, despite a regular look out, there were no reports of Whinchat at all, this is unexplained and it will be interesting to see what 1991 brings.

Table 3. Number of individuals recorded per five day period, 1985-1990

Period	18	19	20	21	22	23	24	25	26	27
Whinchat	-	-	-	-	15	6	13	10	12	2
Tree Pipit	-	-	-	4	7	3	12	11	12	1
Yellow Wagtail	1	0	1	1	12	20	47	11	3	-

Tree Pipit is another species that mysteriously did not appear in 1990, and is also the first species dealt with that breeds on the site thus complicating analysis. Despite this there is an obvious increase in numbers reported in periods 24 to 26 suggesting the species is moving through in numbers at that time.

Meadow Pipits breed in the areas of short grass on Blows Downs, but they also pass through the site in late March with period 18 showing the highest numbers. The maximum count is of c250 on 31st March 1988.

Yellow Wagtails seem to favour the short grass of the paddocks as a stopping point although many reports are of over-flying birds that call to give away their presence. They show a steady increase through periods 22 and 23 to peak in 24, then by 26 are virtually all through.

A cut-off at period 27 has been used in this report to coincide with diminishing observer activity, although all of the above species have been seen in ones and twos well into May in some years. Those periods are not included in this report due to the inconsistency of coverage.

## IRREGULARLY OCCURRING SPECIES

These species are those which have occurred in three or more years during the study period.

Cormorants have been seen passing over the site on four occasions, four on 2nd April 1986, a V-formation of 19 headed north-west on 1st April 1988, and a party of 13 headed west on 1st April 1989, remarkably similar dates. The fourth sighting was of three overhead on 16th April 1989.

It is not surprising that the occasional Hobby is seen over the site as breeding numbers have been increasing nationally for more than ten years. The earliest date recorded is 29th April with most records in the following week.

Sand Martins have been seen in four years, usually only singles, but a group of four on 19th April was of note. This species is a well-known early migrant, usually being seen at favoured areas in March, however on Blows Downs they are purely a passage species and 5th April is the earliest date. This is after the birds are widespread suggesting the individuals seen are possibly making some sort of local movement.

Black Redstarts are a difficult species to see on Blows Downs, their appearance is unpredictable with sporadic records from 27th March until 2nd May. The species also has extreme years, with 1985 having twelve birds reported on site, through to the other end of the scale when 1990 only had a single confirmed report.

Single Reed Warblers have made appearances on three occasions, all after the main passage, 26th May 1986, 26th May 1987 and 13th May 1990. The 1986 bird spent all day singing in back gardens adjacent to the site.

Sedge Warblers have been recorded in three years during the study, the earliest arrival date being 18th April. 1989 saw an exceptional passage when birds were reported on no less than nine dates, the first date of that year, 23rd April, coincided with a BNHS field trip to the site during which two singing birds were located. There had obviously been a small fall of this species, as, on the walk home from the field trip, another individual was noted singing in the car park of the Ewe and Lamb Pub, about 400 yards from the edge of the site. The latest recorded date for this species is 9th May.

The last species to fall into this category is the Pied Flycatcher which has been seen in four of the six years between 20th April, one in 1987 and one on the same date two years later, and 2nd May. Of the six individuals involved there has been an equal split of the sexes and in only one year, 1989, has there been more than one report, when there were three.

**RARELY OCCURRING SPECIES**

Considering the species that have occurred in two years or less in the study period, the majority are single occurrences with single observers. These are listed, Table 4, with the relevant dates. Some species warrant a fuller account and these are given below.

*Table 4. Details of rarely occurring species 1985–1990*

Species	Date	Notes
Mute Swan	30.4.86.	Flying over.
	16.5.86.	Flying over.
Pink-footed Goose	22.3.85.	35 seen flying south.
Quail	26.4.88.	One calling for nine days.
Snipe	4.4.86.	One heard in fog.
Greenshank	4.4.86.	One heard in fog.
Little Tern	6.5.86.	Three flying south.
Short-eared Owl	31.3.90.	One flushed from hillside.
Waxwing	15.4.90.	One stayed all day.
Tree Sparrow	30.4.90.	One overhead going south.
Hawfinch	2.5.86.	One overhead.
	3.4.87.	One seen in thorn scrub.

Dotterel—a party of six were seen on 30th April 1986, they stayed all afternoon but were only seen by three observers. The same field held a party of ten on 18th April 1987. These were found at 07.20 and left at 08.27 during which time they were seen by about half-a-dozen observers.

Golden Plover—a party of ten flew south-west on 2nd April 1985, and a party of four flew east on 3rd April 1987.

Curlew—there have been three singles seen overhead, on 18th March and 19th April 1987 and 23rd April 1989. The two April sightings coincided with BNHS field trips to the site.

Turtle Dove—a surprisingly scarce passage migrant with the only records being a single on 10th May 1986, then from 1988 when birds were seen on 21st, 22nd and 27th April.

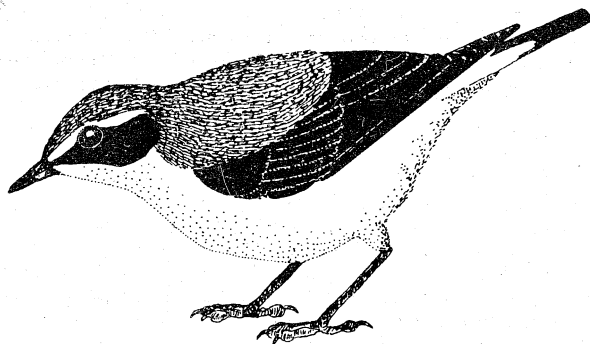
Stonechat—a species that has become scarcer on passage over the last decade to the extent that there were only three records for the whole of the study period. These were on 9th March and 24th April 1986 and 31st March 1987.

Firecrest—although only reported during the study in 1986 and 1989 this species has a record of staying on site. The 1986 bird was found on 18th April and was seen again the following day, while 1989 saw two birds discovered on 21st March both of which stayed for three days. Then in the same year a singing male was seen briefly on 4th May.

**THE FUTURE**

The stretch of Blows Downs under study has been threatened by road development for at least the last 25 years, but nothing ever looked like actually happening. This outlook changed when a relief road was opened between Skimpot Lane and Bury Park in June 1989. Despite local opposition, it is probable that a Dunstable by-pass will be built in the near future, and in the long term a link between the two roads will be constructed along the bottom of the hillside. If this development takes place the effect on the migration through Blows Downs is difficult to predict. It is suggested that the paddocks area would be the location for a large junction roundabout which would almost certainly render the area unattractive to birds. Because this is the best area to see Wheatear, Black Redstart and Whinchat, their numbers would probably suffer. The Ring Ouzels and Redstarts are, in general, much more associated with the broken hawthorn scrub along the slope so they may fare better, depending on the actual route of the road.

Whilst it is only possible to speculate on the effect on the birds, from a birdwatching point of view, any road development will ruin Blows Downs purely by noise pollution. The area currently has a feel of peace to it which is remarkable considering how close the site is to large areas of urban development. Inevitably this will be shattered by road traffic passing through its heart.



*Wheatear*

(Andy Chick)

#### **ACKNOWLEDGEMENTS**

I would like to thank all those people who have passed on their sightings from Blows Downs during the study period, of whom there are too many to name individually.

Special thanks to John Palmer for the graphs that accompany the text, to Andy Chick for the illustrations and to Paul Trodd and Lol Carman for their comments on an earlier draft. Additional thanks to Paul for his kind permission to reproduce the site map from *Where to Watch Birds in Beds, Berks, Bucks, Herts and Oxon* (Christopher Helm, 1987).

## BIRD RINGING REPORT 1990

### Report of the Co-ordinator

An exciting year with an impressive total of 5469 birds ringed. The species range is particularly impressive with some interesting birds caught; Shoveler, Black-tailed Godwit, two Lesser Black-backed Gulls and a Wood Warbler at South Mills, and a Redstart caught in a Luton garden.

As far as total figures are concerned the following are of note; 33 Mute Swans caught during the annual goose round-up, 38 Kingfisher, 164 Chaffinch, 114 Whitethroat, 249 Long-tailed Tit and 37 Treecreeper, all of which indicate a successful breeding season. Conditions proved excellent for catching House Martins during the autumn migration hence the high total of 275, however, conditions were not suitable for both the Reed and Corn Bunting roosts. The total of nine Sparrowhawks was also high for the year.

No foreign recoveries were received during the period unfortunately but there were a number of interesting recoveries within the British Isles. The Swallow and Sand Martin recoveries were from Scottish localities fitting in well with past results, F185017 was particularly interesting being controlled as breeding in the Orkneys. Four Sedge Warblers were also reported during the period, F651359 and F716652 both being recovered at Icklesham in Sussex, F715503 being controlled on southerly migration after being ringed as a pullus in Greater Manchester and the final one relocating from Berkshire to Houghton Regis. The Garden Warbler F641702 was interesting moving north in the autumn and, of greater interest, was the Willow Warbler 7V6401 ringed in Redcar, Cleveland in July and controlled at South Mills three weeks later. The Reed Bunting recoveries were included showing only local movement and the Mute Swan was included for its longevity.

With the newly formed Ivel Valley Ringing Group now well in operation the total number of ringed birds has increased substantially which bodes well for future reports and should produce some interesting data for the county. Considerable effort is now being put in at a number of sites in the county producing interesting results. Two sites are also being run on a Constant Effort basis which requires the same nets to be put up within specified dates each year, this allows more detailed information to be collated on population changes from year to year and should enable some interesting population trends to be discussed in this report in future years.

### ACKNOWLEDGEMENTS

My thanks go to the following for their kind submission of records and also to the various landowners for allowing permission to ring on their land. A.P. Chick, N.R. Finan, M. Hughes, E. Newman, P.R. Oldfield, J.M. Reed, P.J. Wilkinson, R. Wooding.

### RINGING TOTALS FOR 1990

Mute Swan	33	Swallow	123	Goldcrest	51
Canada Goose	61	House Martin	275	Spotted Flycatcher	5
Greylag Goose	83	Meadow Pipit	40	Long-tailed Tit	249
Teal	3	Yellow Wagtail	10	Marsh Tit	7
Shoveler	1	Grey Wagtail	1	Willow Tit	13
Sparrowhawk	9	Pied Wagtail	39	Coal Tit	5
Kestrel	9	Wren	222	Bluc Tit	420
Moorhen	4	Dunnock	227	Great Tit	190
Little Ringed Plover	1	Robin	157	Treecreeper	37
Ringed Plover	2	Nightingale	5	Jay	2
Lapwing	9	Redstart	1	Maggie	1
Dunlin	1	Blackbird	283	Starling	99
Jack Snipe	2	Fieldfare	23	House Sparrow	8
Snipe	31	Song Thrush	98	Tree Sparrow	5
Black-tailed Godwit	1	Redwing	14	Chaffinch	164
Redshank	4	Mistle Thrush	3	Greenfinch	408
Common Tern	12	Grasshopper Warbler	5	Goldfinch	40
Lesser Black-backed Gull	2	Sedge Warbler	231	Linnet	53
Woodpigeon	2	Reed Warbler	182	Redpoll	15
Collared Dove	2	Lesser Whitethroat	51	Bullfinch	140
Cuckoo	3	Whitethroat	114	Yellowhammer	18
Little Owl	1	Garden Warbler	71	Reed Bunting	270
Swift	10	Blackcap	123	Corn Bunting	20
Kingfisher	38	Wood Warbler	1		
Green Woodpecker	7	Chiffchaff	186		
Sand Martin	8	Willow Warbler	374	Total	5418

## SELECTED LIST OF RECOVERIES

Entries are arranged in Voous order. After species and ring number, ringing details are given in the first line and recovery details on the second. Abbreviations used are given below the recovery data.

Species	Ring number	Age code	Ringing and recovery dates	Ringing and recovery locations	Recovery manner	Distance km
Mute Swan	Z27899	4	25.11.69 02.02.90	Bedford Abbotts Ripton, Cambs.	V	33
Kingfisher	SB59508	3J	17.06.90 03.07.90	South Mills Nature Reserve Wicken Bohunt, Saffron Waldon, Essex.	XF	38
Sand Martin	E540483	4♂	08.07.87 09.09.90	Kintore, Grampian, Scotland. Harrold Country Park	V	571
Swallow	C819285	3	09.09.88 19.08.90	Radwell Gravel Pits Newshot Island, Strathclyde, Scotland	V ♀	482
	F185017	3	19.09.88 25.06.90	Harrold Country Park Twtat Airfield, Birsay, Orkney, Scotland.	V ♀	783
Robin	E238186	3	11.06.88 09.03.90	Nr Everton, Beds. Great Barton, Bury St Edmunds, Suffolk.	XF	72
Sedge Warbler	F715503	1	07.06.90	Pennington Flash, Leigh, Greater Manchester.		
	F651359	3J	22.07.90 18.07.90	Harrold Country Park Harrold Country Park	V	194
	F716652	3J	28.07.90 26.06.90	Icklesham Sussex. Wyboston	V	167
	F377848	3J	24.07.90 26.07.89	Icklesham, Sussex. Brimpton GP, Berkshire.	V	156
Reed Warbler	F04426	3	12.05.90 06.08.88	Houghton Regis, Beds. Wraysbury, Berkshire.	V ♂	
Garden Warbler	F641702	3	02.06.90 15.07.90	Wyboston, Beds. Nr Everton, Beds.	V ♂	85
Chiffchaff	3V2593	3	05.08.90 15.07.89	Waterloo Thorns, Nr Everton, Beds. Nr Everton, Beds.	V	
			23.09.89	Yeoveny GP, Wraysbury, Berkshire.	V	80
Willow Warbler	7V6401	3	14.07.90 07.08.90	Nr Wilton, Redcar, Cleveland. South Mills Nature Reserve	V	275
Blue Tit	E386289	6♀	05.03.88 25.11.90	Stock, Essex. Houghton Regis, Beds.	V	69
Greenfinch	VC20961	5♂	01.05.87	Stanway Green, Colchester, Essex.	V	88
	VJ11750	3♀	31.03.90 15.10.90	Limbury, Luton. Antons Gowt, Boston, Lines.	V	127
Reed Bunting	F227186	2♂	25.11.90 18.11.89	Houghton Regis, Beds. Rye Meads, Hertfordshire.	V	45
	E646435	3♂	06.02.90 13.11.88	South Mills Nature Reserve Pattishall, Northants.	V	30
	F166588	3♂	21.01.90 02.07.89	Harrold Country Park Godmanchester, Huntingdon, Cambridgeshire.	V	34
			21.01.90	Harrold Country Park.	V	

## 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

## Recovery Manner:

- V — Controlled (trapped and released)  
+ — Shot or killed  
X — Found dead or dying

## Sex:

- Male ♂  
Female ♀



## DRAGONFLIES (Odonata)

### Report of the Recorder

The summer of 1990 was dominated by the period of drought which developed through July and August and into September. As a result many of the county's dragonfly sites dried out completely. One Haynes farmer recalled how his pond dried out for only the second time in memory (D. Parsons, pers. comm.). Other sites such as Harlington church pond and Wavendon Heath ponds were completely dry throughout August and September. At Sundon Springs quarry and Houghton Regis chalk pit the problems of drought were compounded by excessive disturbance by motorcycles and four wheel drive vehicles. Wheel tracks altered water flow from the spring lines, leading to several wet areas drying out.

Earlier in the year the warm weather in April brought about early emergence of spring species such as *Pyrhosoma nymphula*. Dragonfly numbers built up during May until a prolonged wet spell which lasted into the early part of June put a premature end to them. Emergence of new individuals resumed when warm, dry weather returned on 16th June and numbers built up steadily throughout the rest of the summer. Numbers began to decline in mid-September when cool, wet weather returned. The numbers of dragonflies on the wing in October were much lower than last year.

Unfortunately Brogborough No 2 pit has now been totally lost as a dragonfly site following its use as a landfill site. On the plus side however, the new ponds at Flitton Moor proved to have great potential. During the year ten species were recorded around the ponds and the nearby River Flit. This site is managed as a nature reserve by County Hall and is especially noteworthy for *Anax imperator*.

The high numbers of dragonflies on the wing during the year resulted in many individuals dispersing into new areas. One of the more surprising observations was of a male *Aeshna mixta* patrolling along the River Lea in Luton accompanied by several male and female *Sympetrum striolatum*. Mating behaviour was observed, but it seems unlikely whether eggs or larvae could survive in the poor quality water.

### SYSTEMATIC LIST

Tetrad records with a \* indicate a new 10km record.

#### Zygotera (Damselflies)

**Banded Demoiselle** *Calopteryx splendens* Very common during the year on all the county's unpolluted river systems. It was even found along many small feeder streams where it was previously unrecorded. Individuals were widely reported away from rivers and streams during the summer.

New tetrad records SP92EFGK, TL03FGMNTX, TL04V, TL05L, TL14UTY, TL15S (16)

**Emerald Damselfly** *Lestes sponsa* Small numbers reported at scattered sites throughout the county.

Its major stronghold at Brogborough No 2 is now totally lost.

New tetrad records SP92BDG, SP95Z, TL03FN, TL04H, TL14B (8)

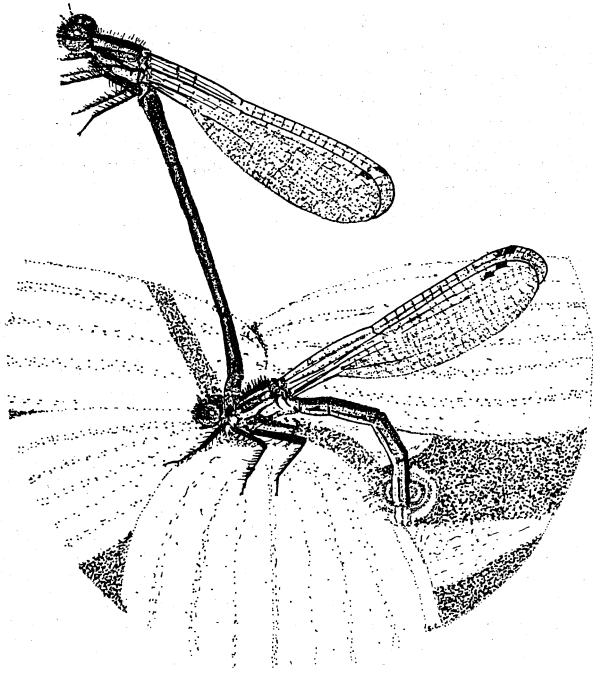
**Scarce Emerald Damselfly** *Lestes dryas* This species was last recorded in the county in 1950.

Searches around Rushmere lake, its only known site, revealed only its more common relative.

**White-legged Damselfly** *Platynemis pennipes* One of the major highlights of the year was the rediscovery of this species along the River Ouzel south of Leighton Buzzard. Last recorded in the 1940's, it suffered badly from bank clearance and pollution. It was found along the Grand Union Canal and River Ouzel between Slapton and Grove. It was not however found in Leighton Buzzard or north along the Old Linslade stretch. It was also recorded at new sites along the Great Ouse and was especially abundant at some.

New tetrad records SP92BFG, SP95FTY, TL04J, TL05DF, TL15 (10)

**Large Red Damselfly** *Pyrhosoma nymphula* The earliest species to emerge, appearing at the end of April. Good numbers were present at Sundon Springs during May where many tandem pairs were observed ovipositing into *Potamogeton* leaves. This area was badly disturbed by four wheel drive vehicles when the water level was low during the summer. It will be interesting



*Pyrrhosoma nymphula*. The first species to appear in spring and probably the county's most under-recorded damselfly

(Steve Cham)

to see if this has an effect on next year's emergence. This is probably the county's most underrecorded species.

New tetrad records SP95G, TL03N (2)

**Blue-tailed Damselfly** *Ischnura elegans* Very common and widespread across the county throughout most of the summer.

New tetrad records SP92FGY, TL02E, TL03FN, TL04MV, TL05L, TL13P, TL14BL (12)

**Scarce Blue-tailed Damselfly** *Ischnura pumilio* Still only recorded from two sites. At Houghton Regis it could not be found along the feeder stream seepage area where it had occurred in previous years, as this had largely dried out. It was, however, found at a new area where the spring line seeps out from the base of the main chalk cliff. At Sundon Springs numbers during July were higher than in the two preceding years. Some areas dried out at Sundon yet it appears to have fared well in the permanently wet seepages. Regular observations and marking experiments made over the last three seasons have led to some new and interesting discoveries on this species (Cham 1990, Cham 1991).

**Common Blue Damselfly** *Enallagma cyathigerum* Common and widespread throughout the county. On some of the clay and brick pits it numbered thousands. This species exhibits very interesting egg-laying behaviour where females oviposit into submerged water weed some way below the surface. Males hover over the water waiting for the females to reappear. The females float up to the surface after completion of egg laying to be retrieved by the waiting males. In some cases the males are unable to pull the females clear of the surface film and this can lead to female mortality. At Elstow clay pit many dead females were found along the windward margins.

New tetrad records SP93PQ, TL03KNX, TL04JV, TL05L, TL11I, TL14ABLTU (14)

**Azure Damselfly** *Coenagrion puella* Scattered colonies recorded throughout the county.

Particularly healthy populations at Flitton Moor pond and Sutton Fen.

New tetrad records SP93Q, TL03FN, TL05F, TL13X, TL14AB (7)

**Red-eyed Damselfly** *Erythromma najas* A large population was discovered on the main lake in Wrest Park. The many water lilies at this site provide favoured resting areas for males. One male was observed catching and consuming a Common Blue Damselfly. This site represents one of the county's strongholds for this species, rivalled only by Felmersham NR and Priority Park lakes where it also had a good year.

New tetrad records TL03KX, TL04J, TL05A (4)

**Anisoptera** (Dragonflies)

**Brown Hawker** *Aeshna grandis* Very common and widespread.

New tetrad records SP92C, SP95Y, TL03KN, TL04MV, TL05LR, TL13PX, TL14T, TL15Y, TL24J (13)

**Southern Hawker** *Aeshna cyanea* Recorded from a number of sites during the year but probably not as common as several years ago. This decline in sightings has also been noted nationally.

New tetrad records TL03IZ, TL04ABP, TL05B, TL14B, TL24D (8)

**Migrant Hawker** *Aeshna mixta* A very good year for this species which was reported widely in late summer. The high numbers present may have been boosted by immigrants coming in from the continent. A female was observed ovipositing into a dry algal mat at Stewartby, some ten centimetres above dry mud. Maybe in anticipation of wetter times.

New tetrad records SP92BD, SP93LUZ, SP94V, SP95YW, SP96V, TL03BDN, TL05Q, TL13X, TL14AKU, TL25D (18)

**Emperor** *Anax imperator* A good year for this species which was recorded at several new sites. At Flitton Moor pond up to five males were seen holding territory around the pond at one time. This is unusual at such a small site as males are highly territorial! Numbers also appear to be on the increase on some of the clay pits.

New tetrad records SP92D, TL02E, TL03FN, TL04HSV, TL05V, TL14B (9)

**Broad-bodied Chaser** *Libellula depressa* Good numbers at Sundon Springs during May.

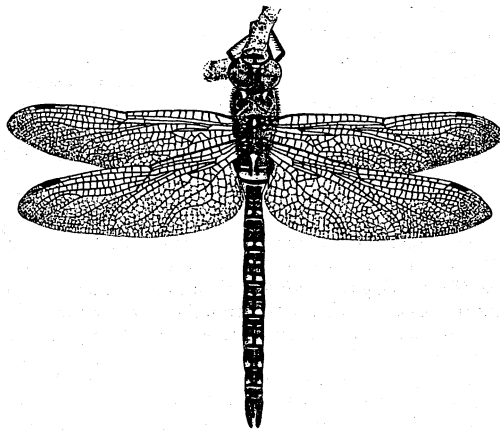
New tetrad records TL03N, TL05VZ, TL14F (4)

**Four-spotted Chaser** *Libellula quadrimaculata* Good numbers reported from Felmersham NR.

New tetrad records TL03NX, TL14B (3)

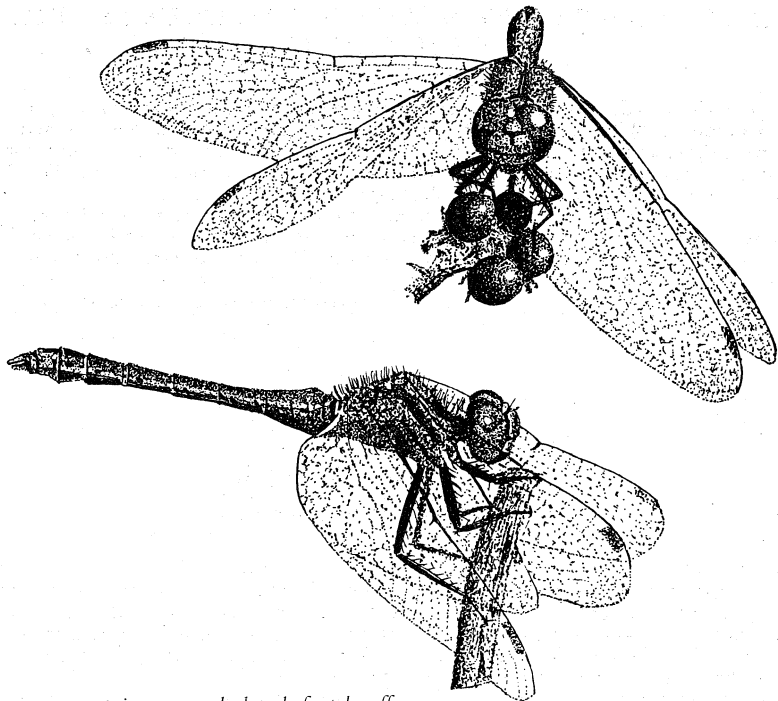
**Black-tailed Skimmer** *Orthetrum cancellatum* Widely recorded on the county's pits during the year.

New tetrad records TL03N, TL04V, TL14BL (4)



*Aeshna mixta*. Very high numbers present in the county during 1990

(Steve Cham)



*Sympetrum sanguineum* perched ready for take-off

(Steve Cham)

**Common Darter** *Sympetrum striolatum* Very common and widespread. At one time there were over twenty pairs ovipositing on Flitton Moor pond.

New tetrad records SP92CG, SP93PW, SP95NP, TL01Z, TL03BDEN, TL04FP, TL05DQ, TL13X, TL14VL (18)

**Ruddy Darter** *Sympetrum sanguineum* Several healthy colonies were discovered at new sites. At one Harlington pond, overgrown with *Typha* and *Glyceria* and almost dry, it was the only species present. It was discovered on the gravel pits east of Henlow for the first time.

New tetrad records SP92D, TL02J, TL03BFKN, TL04AHJ, TL13Y\*, TL25D\* (11)

#### ACKNOWLEDGEMENTS

As always I am extremely grateful to all those who contribute records each year and would like to thank the following. J. Adams, V. Arnold, R. Brind, J. Childs, J. Comont, G. Dennis, R. Fail, M. Kemp, N. Miller, D. Parsons, S. Pittman, D. Rands, E.B. Rands, M. Rowland, P. Trodd, K. and M. Weedon.

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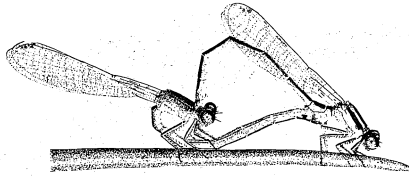
STEPHEN CHAM

## FURTHER NOTES ON THE DISCOVERY OF THE SCARCE BLUE-TAILED DAMSELFLY (*ISCHNURA PUMILIO*) IN BEDFORDSHIRE

by S.A. Cham

When John Comont discovered *Ischnura pumilio* at Sundon Springs and Houghton Regis quarries in 1987 (Comont 1988) it was greeted with great interest. Not only were they the first modern day records from the eastern half of the British Isles but they also represented the first records for the species from chalk quarries (Cham 1991). In the same year it was also discovered at College Lake chalk quarry just over the county border in Buckinghamshire.

Prior to those discoveries *I. pumilio* had a marked south-westerly distribution in the British Isles where it shows a preference for base-rich flushes, spring lines, mesotrophic ponds, shallow heathland ponds, sheltered bog pools and slow-flowing streams. The Bedfordshire and Buckinghamshire sites at first appear quite different, yet *I. pumilio* only favours the wet seepage areas with little or no water flow and where there is sparse vegetation growth, conditions which are a feature of many of its localities in the south-west.



*Ischnura pumilio* A species well-suited to colonise seepage areas in quarries

(Steve Cham)

*I. pumilio* appears well suited to colonise newly formed biotopes such as seepage areas in quarries and has since been discovered in more such sites in Berkshire and Oxfordshire. It probably awaits discovery in other areas of earth extraction in central and south-east England which may help to shed light on its mode of dispersal. These latest records are from quarries of relatively recent origin and have probably been colonised within the last six to seven years.

Nancy Dawson has drawn my attention, however, to a record which may have interesting implications as to when *I. pumilio*'s easterly expansion of its range started to occur. It is therefore worthy of note. On 1st July 1975 Nancy visited Houghton Regis with Beryl Rands, with the purpose of recording the odonata present. She became very excited on discovering a number of small damselflies which she believed to be *I. pumilio*. Two females were collected and sent to Monk's Wood for confirmation. Before they were sent, Nancy made a detailed drawing of one specimen, to which she added notes on its identification. She was somewhat surprised and disappointed on receiving the reply from Monk's Wood that they had been identified as female *I. elegans* of the form *rufescens*. The basis for this identification was the diamond shaped pterostigma and the fact that "a chalk quarry is just about the last place one would expect to find *pumilio*". At the time *pumilio* was thought to have square shaped pterostigma, a character that has since proved to be rather variable. It was also considered at the time that *pumilio* was only associated with heathland ponds and boggy pools. Despite the disappointment Nancy retained her original notes and drawings along with the correspondence. These drawings clearly show *I. pumilio* var. *aurantiaca*, a distinctive bright orange immature form of the female.

For *I. pumilio* to have reached Bedfordshire by 1975 it must have arrived from another colony some distance away and this opens up many intriguing questions as to its ability to disperse and establish new colonies in the highly specialised conditions of a seepage zone habitat. John's and Nancy's discoveries have stimulated much interest in this small, dainty damselfly and it is hoped that more people will continue to look for the species in new areas so that a comprehensive record of its distribution can be made.

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 Address: 45 Weltmore Road, Luton LU3 2TN

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

My report for 1990 includes the recording of 17 species new to the county list.

During the year we have continued field work and light-trapping at West Wood, Knotting, and Coppice Wood, Melchbourne. Light-trap specimens have been sent to me from Biggleswade, the RSPB reserve at Sandy, and Cockayne Hatley. The catches from the continuously operated Rothamsted trap at Cockayne Hatley continue to provide new and interesting records. Several of these have been identified from genitalia slides, for which I have received valuable guidance from David Agassiz.

### ADDITIONS TO THE BEDFORDSHIRE LIST

#### Micropterigidae

*Micropterix tunbergella* Coppice Wood, TL 06H (5 May)

#### Nepticulidae

*Stigmella samiatella* Woodbury Park, TL 25B, (10 November) vacated leaf-mine

#### Opostegidae

*Opostega salaciella* Sharnbrook, SP 95Z (28 July)

#### Lyonetiidae

*Bedellia somnulentella* Cockayne Hatley, TL 24P (August)

#### Gracilariidae

*Caloptilia rufipennella* Sharnbrook, SP 95Z (3 August)

#### Coleophoridae

*Coleophora frischella* Cockayne Hatley, TL 24P (August)

*C. striatipennella* Cockayne Hatley, TL 24P (June 1989)

*C. sternipennella* Cockayne Hatley, TL 24P (June 1989)

*C. versurella* Cockayne Hatley, TL 24P (July)

#### Elachistidae

*Elachista bisulcella* Cockayne Hatley, TL 24P (September)

#### Oecophoridae

*Enicostoma lobella* Cockayne Hatley, TL 24P (June)

*Depressaria pulcherrimella* Cockayne Hatley, TL 24P (July)

#### Gelechiidae

*Caryocolum fraternella* Cockayne Hatley, TL 24P (July 1989)

*Aproaerema anthyllidella* Cockayne Hatley, TL 24P (September)

#### Tortricinae

*Acleris ferrugana* West Wood, SP 96W (13 July)

#### Olethreutinae

*Gypsonoma oppressana* Coppice Wood, TL 06H (15 June)

#### Pyralidae

*Eurrhynx perlucidalis* Cockayne Hatley, TL 24P (11 July)

### ACKNOWLEDGEMENTS

I would like to thank the following for records and specimens sent to me during the year:  
V. W. Arnold, R. Passley, R. Revels, I. Woiwod.

DAVID MANNING

## MACRO-MOTHS (Lepidoptera)

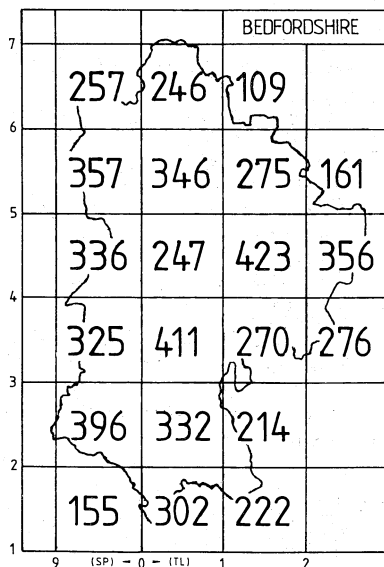
### Report of the Recorder

Although the weather of 1990 was good for fieldwork, the general impressions gained from a number of my recorders was that, generally, moth numbers were, in fact, lower than they should have been. This may have resulted from the very mild winter which would, no doubt, have led to a large number of insects being preyed on by various natural forces, and to the drought.

The main source of records for 1990, and in fact most years now, comes from trapping at light — either in gardens or in various woods in the county. No one now seems to use the older methods of recording species such as searching for larvae or sugaring. West Wood, Knotting and Coppice Wood, Melchbourne were once again worked with success by D.V. Manning, R. Passley and W. Champkin. A new site, Odell Great Wood, was visited on a few occasions by G. Higgs. It is hoped that more visits can be arranged to this important site during 1991. Three sites in the east of the county were worked by three new recorders — R. Bashford at Moggerhanger; M. Kemp at The Lodge, Sandy; and I. Dawson at Tempsford. Although Moggerhanger and Tempsford are new sites, the last time records were received from The Lodge, Sandy was in 1975. It was interesting to find that the site appears as good as it was in the 1970's and new moths were recorded from the site including a new county record. Ian Dawson's site in his garden at Tempsford, produced 76 new species for the 10Km square over a two year period of trapping.

Records were received from G. Dennis for Priory Park, Bedford, and garden moth traps were also run by, among others, Miss J. Kemp-Gee at Whipsnade and Kensworth; C. Baker at Studham; R. Revels at Biggleswade; J. Barnwell at Aspley Guise, and Mr and Mrs E. Bowskill at Stotfold.

Glow Worms were once again recorded from Bison Hill, Whipsnade at a Society meeting held on the 6th July, 1990.



Number of species recorded in each 10km square — as at 31.12.90

### SPECIES LIST

The following list contains new species, comments on species of particular interest and an update of the current status of some of the county's moths. Species marked \* are new county records. 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 (Curwen, London 1979).

- 16 **Gold Swift** Very late record for this species, 10/9/1989 at a Rothamsted trap at Eaton Bray.
- 373 **Currant Clearwing** Recorded by Dr E.G. Neal from his kitchen window in Park Ave., Bedford, during June 1990. A very under-recorded species.
- 382 **Six-belted Clearwing** One seen by G. Higgs at Sundon County Park during July 1990. Not recorded since 1984.
- 1631 **December Moth** A widely distributed moth, but records have been scarce for a few years.
- 1661 **Orange Underwing** Flying in sunshine around birch trees from The Lodge, Sandy on 1/4/1990 by M. Kemp. This species had not been recorded since 1982.
- 1663 **March Moth** A common moth, found throughout the county.

- 1680 **Maiden's Blush** Recorded by M. Kemp, The Lodge, Sandy during 1989 and 1990.
- 1716 **The Vestal** Migratory species, recorded 21/10/1990 from The Lodge, Sandy by M. Kemp.
- 1722 **Flame Carpet** This attractive moth was recorded by I. Dawson at Tempsford, M. Kemp at The Lodge, Sandy in 1989 and by Miss J. Kemp-Gee at Whipsnade in 1990. Considered to be a scarce Bedfordshire species.
- 1745 **The Mallow** Not uncommon, this species comes readily to light and is normally recorded from various garden sites during the autumn of each year.
- 1746 **Shoulder Stripe** A common moth, found throughout the county.
- 1748 **Beautiful Carpet** An uncommon moth, recorded by G. Higgs from Odell Great Wood.
- 1752 **Purple Bar** Normally a well-distributed Bedfordshire moth. Both 1989 and 1990 were average years for this species, whose larvae feed on bedstraws.
- 1766 **Blue-bordered Carpet** A scarce moth — recorded most years from a Rothamsted trap at Eaton Bray, also from The Lodge, Sandy by M. Kemp on 16/7/1990.
- 1795 **November Moth** A common moth found throughout the county.
- 1799 **Winter Moth** A common moth found throughout the county.
- 1804 **Barred Rivulet** At light, West Wood, Knotting, by R. Passley and D.V. Manning. An uncommon species, the larvae feeding on Red Bartsia.
- 1820 **Pinion-spotted Pug** At light, Tempsford, by I. Dawson. A scarce moth.
- 1830 **Wormword Pug** At light, West Wood, Knotting, by R. Passley and D.V. Manning.
- 1834 **Common Pug** A common moth found throughout the county.
- 1846 **Narrow-winged Pug** A rare Bedfordshire moth, recorded at The Lodge, Sandy by M. Kemp in 1989 and 1990. The larvae of this species feeds on heather.
- 1870 **Chimney Sweeper** No records have been received for this day flying moth since 1988. Normally common on Dunstable Downs in late June and early July.
- 1879 **The Seraphim** At light, Dell Farm, Whipsnade by Miss J. Kemp-Gee and Coppice Wood, Melchbourne by R. Passley. An uncommon Bedfordshire moth.
- 1889 **Peacock Moth** One specimen to light on 16/6/1989 by M. Kemp at The Lodge, Sandy. Last recorded at Flitwick Moor in 1977.
- 1907 **Bordered Beauty** At light 31/7/1990 by C. Baker at Studham. An uncommon Bedfordshire moth.
- 1911 **Large Thorn** At light in R. Revels' garden in Biggleswade.
- 1918 **Lunar Thorn** Few records have been received recently for this species. Last recorded from The Lodge, Sandy by M. Kemp in 1989.
- 1923 **Feathered Thorn** A common moth found throughout the county.
- 1926 **Pale Brindled Beauty** A common moth found throughout the county.
- 1932 **Spring Usher** Recorded from West Wood, Knotting by R. Passley and D.V. Manning and from The Lodge, Sandy by M. Kemp. Normally a woodland moth found on the wing in February and March.
- 1933 **Scarce Umber** At light, Clifton by A. Outen and The Lodge, Sandy by M. Kemp. Never many records for this local species.
- 1934 **Dotted Border** A common moth found throughout the county.
- 1935 **Mottled Umber** A common moth found throughout the county.
- 1956 **Common Wave** A common moth found throughout the county.
- 1960 **Early Moth** Probably common but as it emerges in January and February is normally missed or overlooked. At light, Clifton by A. Outen.
- 1973 **Death's-head Hawk-moth** Recorded by Mrs C. Barford as a larvae near Clifton Cricket Club, Stanford Road, Clifton. Last recorded in 1982.
- 1984 **Humming-bird Hawk-moth** Recorded from various sites in the county during the hot summer. This was the best year for records since 1986.
- 1994 **Buff Tip** A common moth found throughout the county.
- 2014 **Marbled Brown** Only recorded once in 1990, from J. B. Barnwell's light trap at Aspley Guise. Considered a scarce Bedfordshire moth.
- 2035 **Round-winged Muslin** A scarce Bedfordshire moth — recorded in 1990 from West Wood, Knotting by R. Passley and D.V. Manning, The Lodge, Sandy by M. Kemp and a Rothamsted trap at Cockayne Hatley.
- 2038 **Muslin Footman** A scarce Bedfordshire moth recorded by M. Kemp at The Lodge, Sandy at light on 16/6/1989.



- 2049 **Buff Footman** A scarce Bedfordshire moth recorded from Coppice Wood, Melchbourne in 1989 by R. Passley and at The Lodge, Sandy by M. Kemp on the 18th and 20th July 1990.
- 2088 **Heart and Club** Last recorded from a Rothamsted trap at Eaton Bray in 1987. Due to its similarity with the Heart and Dart it is possibly overlooked.
- 2092 **Shuttle-shaped Dart** This species has now been recorded from all of the 10Km squares in Bedfordshire.
- 2108 **Lunar Yellow Underwing** Last recorded in 1981 but as this species is easily confused with the Lesser Yellow Underwing, and is known now to be nationally declining, all recent records are considered suspect.
- 2117 **Autumnal Rustic** A local and scarce species of Bedfordshire moth, recorded in 1990 by R. Revels at Biggleswade and M. Kemp at The Lodge, Sandy.
- 2130 **Dotted Clay** A scarce Bedfordshire moth. Recorded both in 1989 and 1990 by M. Kemp from The Lodge, Sandy.
- 2137 **Great Brocade** No recent records for this species. A specimen was found in G. Ping's moth collection from Carlton, taken in 1983.
- 2150 **Grey Arches** An uncommon Bedfordshire moth, recorded only twice in 1990 — from J.B. Barnwell at Aspley Guise and M. Kemp at The Lodge, Sandy.
- 2177 **Hedge Rustic** A moth that is probably under-recorded in the county. Taken at light in 1989 and 1990 by M. Kemp at The Lodge, Sandy and a Rothamsted trap at Cockayne Hatley.
- 2214 **Chamomile Shark** The larvae of this moth were recorded by Dr N. Dawson near Chicksands Wood on 6/7/1990. This species had not been recorded since 1985.
- 2216 **The Shark** Taken at light by the Recorder on Bison Hill, Whipsnade on 6/7/1990 and from Moggerhanger by R. Bashford, also in July 1990. Not considered to be a common Bedfordshire moth.
- 2221 **The Mullein** The larvae of this species were recorded by Dr N. Dawson in late June 1990 from Ickwell and Priory Park, Bedford. Some years the larvae are very conspicuous feeding on the leaves of various mulleins, figwort and also on buddleias.
- 2227 **The Sprawler** This species is widely distributed throughout the county although recent records have been rather scarce.
- 2229\* **Brindled Ochre** New county record, recorded at light 7/11/1990 by M. Kemp at The Lodge, Sandy. A strange record as this moth is normally a coastal species.
- 2232 **Black Rustic** A scarce Bedfordshire moth recorded by Miss J. Kemp-Gee from Whipsnade, I. Dawson from Tempsford, M. Kemp from The Lodge, Sandy and a Rothamsted trap at Cockayne Hatley.
- 2240 **Blair's Shoulder-knot** This species is continuing its spread across the county. It has now been recorded from eight of the 21 10Km squares for Bedfordshire since it was first recorded at Clifton in 1985.
- 2242 **Sword Grass** This species has not been recorded since 1977.
- 2245 **Green-brindled Crescent** A common moth, found throughout the county.
- 2248 **Brindled Green** A species that is normally found in wooded areas of the county. Recorded from The Lodge, Sandy by M. Kemp, at Tempsford by I. Dawson and 40 were recorded from a Rothamsted trap at Cockayne Hatley between 9th September and 7th October 1990.
- 2256 **The Satellite** A common moth found throughout the county.
- 2258 **The Chestnut** A common moth found throughout the county.
- 2259 **Dark Chestnut** A moth that appears to be scarce in Bedfordshire, although widely distributed. Recorded in 1989 from a Rothamsted trap at Eaton Bray and from The Lodge at Sandy by M. Kemp and during 1990 from a Rothamsted trap at Cockayne Hatley.
- 2263 **Red-line Quaker** A good year for this species, it was recorded from Mr and Mrs Bowskill's site at Stofold as well as other sites throughout the county. Between 25/9/1990 and 23/10/1990 36 were recorded from a Rothamsted trap at Cockayne Hatley.
- 2264 **Yellow-line Quaker** This species appears to be less common than the Red-line Quaker. It was only recorded three times in 1990, from Whipsnade by Miss J. Kemp-Gee, The Lodge, Sandy by M. Kemp and a Rothamsted trap at Cockayne Hatley.
- 2268 **The Suspected** A rare Bedfordshire moth, recorded from The Lodge, Sandy by M. Kemp on 18 and 20/7/1990. Last recorded in 1980 from Flitwick Moor.
- 2314 **Dingy Shears** An uncommon Bedfordshire moth recorded at Tempsford by I. Dawson, The Lodge, Sandy by M. Kemp on 16/7/1990 and also from a Rothamsted trap at Cockayne Hatley on 16/7/1990.

- 2377 **Fen Wainscot** A rare Bedfordshire species, recorded 4/8/1990 by M. Kemp at The Lodge, Sandy.
- 2380 **Treble Lines** An uncommon moth only recorded twice in 1990 from Whipsnade by Miss J. Kemp-Gee and Studham by C. Baker.
- 2382 **The Rustic** A common moth found throughout the county.
- 2423 **Oak Nycteline** West Wood, Knotting by R. Passley and D. V. Manning. Last recorded in 1984. As this species resembles a member of the micro-lepidoptera it has probably been over-looked in the past.
- 2437 **Golden Plusia** This moth was first recorded in the British Isles in 1890. It is a garden species that feeds on monkshood or cultivated species of delphinium. Members of the Society were asked to record it during the year. It was recorded by J. B. Barnwell at Aspley Guise, P. Almond at Bromham, Mr and Mrs J. B. B. Johnston from the Brickhill area of Bedford and from the Recorder's garden in Luton.
- 2441 **Silver Y** On the 15/2/1990 a final instar of this moth was found at Stanford Pits by Mrs D. Riley. The larvae was taken to Rothamsted where it pupated and an adult male moth emerged. As this species is not supposed to be able to survive British winters this is another indicator of how mild the winter of 1989/90 was.

### ACKNOWLEDGEMENTS

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

T. Aldhous, P. Almond, C. Baker, Mrs C. Barford, J. B. Barnwell, R. Bashford, Mr and Mrs E. G. Bowskill, J. W. Buss, W. J. Champkin, Ms J. Childs, I. K. Dawson, Dr N. Dawson, G. Dennis, J. Dick, L. Field, G. Higgs, Mr and Mrs J. B. B. Johnston, Hon. H. de B. Lawson Johnston, Miss J. Kemp-Gee, M. Kemp, D. V. Manning, A. J. Martin, Dr E. G. Neal, A. R. Outen, D. Parsons, R. Passley, M. Paine, Mrs A. Puttock, R. C. Revels, Mr and Mrs A. Riley, R. B. Stephenson, Mrs E. Thomas, T. Thomas, H. Winter and I. Woiwod.

V. W. ARNOLD

## HOVERFLIES (Diptera — Syrphidae) Report of the Recorder

Limited field work in 1989 confirmed the diversity of species occurring in early spring. Two species (*Platycyberus discimanus* and *Melangyna quadrimaculata*) new for the county were found at Stockgrove Park (the second best site for Syrphidae in the county) on a very warm and sunny day.

Several new 10Km records came in the same period, and subsequently an attractively diverse range of species was observed at a previously unvisited site, Milton Bryan ponds.

### NEW 10KM RECORDS

<i>Cheilosia albitarsis</i>	SP 93	<i>Myathropa florea</i>	SP 93
<i>Cheilosia grossa</i>	TL 01	<i>Neoscia podagrica</i>	SP 93
<i>Eristalinus sepulchralis</i>	SP 93	<i>Parhelophilus frutetorum</i>	SP 93
<i>Eristalis tenax</i>	SP 93	<i>Platycyberus discimanus</i>	SP 92*
<i>Helophilus pendulus</i>	SP 93	<i>Platycyberus peltatus</i>	SP 93
<i>Lejogaster metallina</i>	SP 93	<i>Pyrophaena granditarsus</i>	SP 93
<i>Leucozona lucorum</i>	SP 93	<i>Syrphus torvus</i>	SP 91, SP 92,
<i>Melangyna lasiophthalma</i>	SP 92, TL 14		TL 01, TL 13, TL 14
<i>Melangyna quadrimaculatus</i>	SP 92*	<i>Xylota segnis</i>	SP 93
<i>Meliscaeva cinctella</i>	SP 93	<i>Xylotomima nemorum</i>	SP 93

\* new county record

N. F. JANES

## BUTTERFLIES (Lepidoptera)

### Report of the Recorder

As with many other recording schemes, the butterfly survey operates on the 2km grid square basis known as a tetrad. The current recording phase started some thirteen years ago when more than 33% of the tetrads for the county had no species at all recorded for that area. Currently they all have at least five species recorded and 80% of them have more than ten species. This remarkable achievement is the result of the field work carried out by a small group of dedicated enthusiasts who have had to contend with more than their fair share of bad weather in the past. During the last two years, however, the weather has been much more favourable for both them and the butterflies they seek.

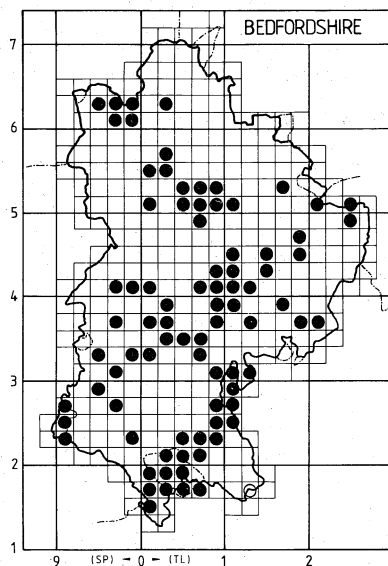
The year started very mild with many sunny warm days allowing early sightings of overwintered species. Richard Basford was lucky enough on 23rd February to see Brimstone, Small Tortoiseshell, Peacock, Red Admiral, and Comma all feeding together on the same bush at Sandy Lodge gardens. Small numbers of Red Admiral do overwinter here if the weather is mild enough. The damp weather appeared just at the correct time for the Ringlets and Meadow Brown to breed. Strangely these species are always more successful in damp weather than when it is hot and sunny during their breeding phase. By the time the summer was underway, most of the local species were doing well but the late summer and autumn were a disappointment for the *Vanessids*, with Small Tortoiseshell and Red Admiral numbers well down on previous sightings, and hardly anyone saw the Painted Lady. *Commas*, on the other hand, seem to have done well.

Records are obtained from many sources and not all of them obvious. The studies of the Bedfordshire Bat group give rise to records of butterflies wings in bat roosts during the summer and records of hibernating insects during the winter months. The strangest record of all this year came from Haynes, where Dave Parsons managed to record Purple Hairstreak from a child's paddling pool. This was the first one he had ever seen and, after drying out, the insect flew away apparently none the worse for its experience.

**Whites** Small White was very common all year but Large White numbers were down.

Brimstone and Green-veined White seemed to have normal years. Wood Whites were seen but no new sites were recorded. The showy male Orange Tips made their high numbers obvious in May and they seem to have had a very extended season. There were no Clouded Yellow sightings.

**Vanessids** After the many sightings of overwintered insects the group seems to have had a relatively poor year. Small Tortoiseshell numbers were well down on normal and Red Admiral and Peacock numbers were lower than expected. The Comma had a very successful season but the Painted Lady was only seen by a very few people. While the White Admiral was seen, it was scarce and no new sites were found.



*Holly Blue: records for 1990*

**Browns** Speckled Wood numbers were well down everywhere except in Potton Wood where it did well, this would appear to have been the result of very local conditions. Wall Brown had a very successful season, and the Ringlet was very numerous. Small Heath and Marbled Whites had a normal season as did the Gatekeeper.

**Hairstreaks** Only the Purple Hairstreak seemed to enjoy breeding success. There were no Black Hairstreaks and very few White-letter Hairstreaks seen and the Green Hairstreak had a very poor season.

**Metal Marks and Coppers** The Small Copper did well for the second year in a row but the Duke of Burgundy was not seen at all this season.

**Blues** Common Blue had another very successful year but the Small Blue and Chalk Hill Blue were hardly seen at all. The oddest record of all was of a single Chalk Hill Blue at Potton Wood on 17th August where the nearest colony is some miles away at Royston. Brown Argus had a normal year and even popped up unexpectedly on the edge of Reddings Wood near Ampthill.

The year must belong to the Holly Blue. It was seen by so many people that I have produced a separate map of this years sightings alone. Large numbers were seen at times and strange events such as egg laying on Cotoneaster and Pyracantha in gardens were recorded. I had eggs laid on the latter in my garden but the small larvae did not survive on this strange food plant. There were two main broods as usual but some counties reported a rare third brood and this did occur in Bedfordshire which was very unusual.

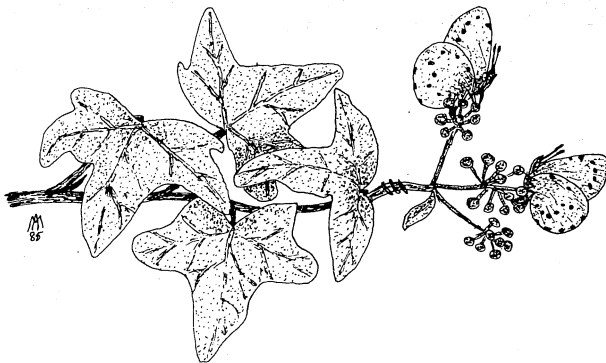
**Skippers** All three of the grass feeding skippers did well. Large, Small and Essex were found in well above average numbers, but, while Dingy Skipper had a normal season, the Grizzled Skipper had a rather poor year.

#### ACKNOWLEDGEMENTS

Once more it is my pleasure to thank the following people for their records:-

J. Adams, A. Aldhous, P. Almond, D. Anderson, V. Arnold, C. Baker, R. Bashford, Mr and Mrs Bowskill, R. Brind, J. Childs, B. Clutton, G. Dennis, G. Higgs, P. Hopper, C. Horton, L. Jarrett, M. Kemp, P. Madgett, D. Manning, A. Outen, D. Parsons, S. Pittman, B. Rands, Mr and Mrs D. Smith, B. Stephenson, P. Trodd, Mr and Mrs K. Weeden, H. Winter, I. Woivod.

ALAN J. MARTIN



*Holly Blue females egg laying on Ivy*

*(Alan Martin)*

## BUGS (Hemiptera-Heteroptera)

### Report of the Recorder

The hot summer last year made recording difficult, in as much as many species were about for a shorter time than usual, passing through the adult phase very rapidly. The year 1990 was also remarkable for the quality of records received. J.E. Ashby produced an excellent series of records, mainly incidental to a pitfall trapping project by the Coleoptera Recorders. These included two new county records in three days, as well as three second county records.

One of the new county records was *Geris gibbifer*, long overdue. This not uncommon pond-skater is particularly associated with garden ponds — as in this instance. Much more exciting was *Myrmedobia coleoptrata*, a tiny bug which is nationally 'Notable' with records from only a dozen or so counties, mostly in the south of England. 'Second county records' *Acalypta carinata* from Dunstable (TL031198) on 2nd June, *Eremocoris podagricus* from Blows Downs (TL040220) on 14th October; and the water-boatman *Notonecta obliqua*, which is an acid-water species but in this case was unaccountably in a chalk-pit lagoon, in Sundon Quarry (TL0427) on 12th September 1987. Also of interest are records of *Derephysia foliacea*, a rather uncommon lacebug associated with Ivy. This occurred in pitfalls on Blows Downs on 14th October 1990 and on a Woburn road verge on 10th July 1989.

I can add two other 'second county records'. I found numbers of *Teratocoris saundersi* on 1st July amongst *Carex* in a delightful small steeply sloping limestone pasture having a series of marshy flushes, beside the A6 road at Bletsoe (TL017574). Also, *Halticus luteicollis* was found in Kings Wood, Houghton Conquest (TL045405) on 9th August.

I am also happy to report that our Red Data Book Category 1 ('Endangered') species, *Plachochilus seladonicus*, is still surviving at its Billington Road site in Leighton Buzzard, on the former railway line. I found three live and one dead female there on its host plant, Field Scabious, on 22nd July 1990. The last sighting here was in 1982, although I checked in 1983, 1987 and 1989 without finding any — all of these visits in August. There seems little hope that the site will long survive its progressive commercial development.

### ADDITIONS TO THE BEDFORDSHIRE LIST

#### **Microphysidae**

*Myrmedobia coleoptrata* (Fallén) One collected in pitfall at Caddington, grid reference TL057208, on 21st July 1990 by J.E. Ashby.

#### **Gerridae**

*Gerris gibbifer* Schummel One collected from garden pool in a Dunstable garden, grid reference TL035224, on 23rd July 1990 by J.E. Ashby.

B.S. NAU

## CHECKLIST OF BEDFORDSHIRE COLEOPTERA ADDITIONS TO THE COUNTY LIST

by J.E. Ashby<sup>(1)</sup> and W. Powell<sup>(2)</sup>

Since the early 1900's, the beetles have been somewhat sporadically recorded in Bedfordshire, and the history of these studies has been summarised in B.S. Nau's bibliography of Coleoptera in Bedfordshire (Nau 1983). In the same series of articles, Dr Nau arranged all available records into the *Checklist of Bedfordshire Coleoptera* which was published in five parts (Nau 1983, 1984, 1985, 1986, 1987).

British beetles form a large order consisting of 96 families, which are represented by a total of more than four thousand species. The utilisation of varied sampling techniques has enabled the present Recorders to undertake comprehensive surveys of a wide range of habitats, which have produced many new county records. These records have been published in the Recorders Reports (1989, 1990, 1991) and are summarised below in systematic order.

### REFERENCES

- NAU, B.S. 1983 A checklist and bibliography of Coleoptera in Bedfordshire: (1) Carabidae to Histeridae. *Bedf. Nat.* **37** 50-54  
NAU, B.S. 1984 Checklist of Bedfordshire Coleoptera: (2) Hydraenidae to Buprestidae. *Bedf. Nat.* **38** 65-69  
NAU, B.S. 1985 Checklist of Bedfordshire Coleoptera: (3) Elateridae to Anthicidae. *Bedf. Nat.* **39** 61-64  
NAU, B.S. 1986 Checklist of Bedfordshire Coleoptera: (4) Cerambycidae to Scolytidae. *Bedf. Nat.* **40** 61-64  
NAU, B.S. 1987 Checklist of Bedfordshire Coleoptera: (5) Addendum. *Bedf. Nat.* **41** 74

### CARABIDAE

*Asaphidion curtum* (Heyden)  
*A. stierlini* (Heyden)  
*Tachys parvulus* Dejean  
*Amara convexior* Stephens  
*Licinus depressus* (Paykull)  
*Panaqaeus bipustulatus* (Fabricius)

### DYTISCIDAE

*Hydroporus memnonius* Nicolai

### HYDROPHILIDAE

*Helophorus grandis* Illiger  
*Coelostoma orbiculare* (Fabricius)  
*Cercyon convexiusculus* Stephens  
*C. pygmaeus* (Illiger)  
*C. quisquilius* (Linnaeus)  
*Anacaena globulus* (Paykull)  
*A. limbata* (Fabricius)  
*A. lutescens* (Stephens)

### HISTERIDAE

*Abraeus globosus* (Hoffmann)  
*Carcinops pumilio* (Erichson)  
*Hister merdarius* Hoffmann

### PTILIIDAE

*Ptenidium pusillum* (Gyllenhal)  
*Nephanes titan* (Newman)

### LEPTINIDAE

*Leptinus testaceus* Müller

### LEIODIDAE

*Leiodes gallica* (Reitter)  
*L. litura* Stephens  
*L. obesa* (Schmidt)  
*L. polita* (Marsham) (= *calcarata* Erichson)  
*L. rugosa* Stephens  
*L. strigipennis* Daffner (= *flavicornis* (Brisout))  
*Liocyrtusa vittata* (Curtis) (= *Cyrtusa pauxilla* (Schmidt))  
*Colenis immunda* (Sturm)  
*Anisotoma orbicularis* (Herbst)  
*Agathidium atrum* (Paykull)  
*A. convexum* Sharp  
*A. marginatum* Sturm  
*A. nigrinum* Sturm  
*Ptomaphagus varicornis* (Rosenhauer)  
*Nargus anisotomoides* (Spence)  
*N. wilkinki* (Spence)  
*Choleva agilis* (Illiger)  
*C. glauca* Britten

Addresses:

- (1) 10 Buckwood Avenue, Dunstable, Beds. LU5 4PE  
(2) 18 Staveley Road, Dunstable, Beds. LU6 3QQ

*C. jeanneli* Britten  
*C. oblonga* Latreille  
*Catops coracinus* Kellner  
*C. morio* (Fabricius)  
*Colon serripes* (Sahlberg)

**SCYDMAENIDAE**

*Neuraphes elongatulus* (Müller & Kunze)  
*Eucommis hirticollis* (Illiger)

**SCAPHIDIIDAE**

*Scaphisoma boleti* (Panzer)

**STAPHYLINIDAE**

*Micropeplus tesseraula* Curtis  
*Megarthritis sinuaticollis* (Boisduval & Lacordaire)  
*Proteinus atomarius* Erichson  
*P. macropterus* (Gravenhorst)  
*Acidota cruentata* Mannerheim  
*Phyllodrepa floralis* (Paykull)  
*Acrolocha sulcula* (Stephens)  
*Omalium septentrionis* Thomson  
*Carpelimus fuliginosus* (Gravenhorst)  
*C. pusillus* (Gravenhorst)  
*Anotylus complanatus* (Erichson)  
*Stenus ossium* (Stephens)  
*S. pusillus* Stephens  
*S. subaeneus* Erichson  
*Lithocharis nigriceps* Kraatz  
*Scopaeus sulcicollis* (Stephens)  
*Othius laeviusculus* Stephens  
*Leptacinus pusillus* (Stephens)  
*Phacophallus parumpunctatus* (Gyllenhal)  
*Gauropterus fulgidus* (Fabricius)  
*Philonthus decorus* (Gravenhorst)  
*P. nitidicollis* (Boisduval & Lacordaire)  
*P. tenuicornis* Mulsant & Rey  
*Gabrius pennatus* Sharp  
*G. piliger* Mulsant & Rey  
*Staphylinus ophthalmicus* Scopoli  
*Quedius fumatus* (Stephens)  
*Q. humeralis* Stephens  
*Q. longicornis* Kraatz  
*Q. nitipennis* (Stephens)  
*Q. scintillans* (Gravenhorst)  
*Sepedophilus immaculatus* (Stephens)  
*Tachyporus transversalis* Gravenhorst  
*Tachinus flavolimbatus* Pandellé  
*Cypha pulicarius* (Erichson)  
*Oligota punctulata* Heer  
*Myllaena infusata* Kraatz  
*Callicerus rigidicornis* (Erichson)  
*Amischa cavifrons* (Sharp)  
*A. decipiens* (Sharp)  
*A. soror* (Kraatz)  
*Dinaraea angustula* (Gyllenhal)  
*Liogluta oblongiuscula* (Sharp)  
*L. pagana* (Erichson)  
*Atheta malleus* Joy  
*A. triangulum* (Kraatz)  
*A. xanthopus* (Thomson)  
*Deubelia picina* (Aubé)  
*Oxygoda annularis* Mannerheim

*O. brachyptera* (Stephens)  
*O. ferruginea* Erichson  
*O. haemorrhoea* (Mannerheim)  
*O. induta* Mulsant & Rey  
*O. lividipennis* Mannerheim  
*Haploglossa pulla* (Gyllenhal)  
*Aleochara bilineata* Gyllenhal  
*A. ruficornis* Gravenhorst  
*A. sparsa* Heer

**PSELAPHIDAE**

*Bibloporus bicolor* (Denny)  
*Euplectes duponti* Aubé  
*E. nanus* (Reichenbach)  
*Bryaxis bulbifer* (Reichenbach)

**GEOTRUPIDAE**

*Odontaeus armiger* (Scopoli)

**SCARABAEIDAE**

*Aphodius equestris* (Panzer)  
*A. pusillus* (Herbst)

**SCIRTIDAE**

*Cyphon hilaris* Nyholm  
*C. ochraceus* Stephens  
*C. palustris* Thomson

**BYRRHIDAE**

*Chaetophora* (= *Syncalyptra*) *spinosa* (Rossi)

**DRYOPIDAE**

*Dryops ernesti* des Gozis

**ELATERIDAE**

*Stenagostus villosus* (Fourcroy)  
*Selatosomus incanus* (Gyllenhal)

**CANTHARIDAE**

*Malthinus balteatus* Suffrian  
*Malthodes dispar* (Germer)

**DERMESTIDAE**

*Anthrenus fuscus* Olivier

**ANOBIIDAE**

*Dryophilus pusillus* (Gyllenhal)  
*Anobium inexpectatum* Lohse

**MELYRIDAE**

*Anthocomus fasciatus* (Linnaeus)

**NITIDULIDAE**

*Kateretes rufiflabris* (Latreille)  
*Carpophilus obsoletus* Erichson  
*Epuraea pusilla* (Illiger)  
*Omosita colon* (Linnaeus)

**RHIZOPHAGIDAE**

*Rhizophagus cribratus* Gyllenhal  
*Monotoma bicolor* Villa  
*M. spinicollis* Aubé

**SPHINDIDAE**

*Aspidiphorus orbiculatus* (Gyllenhal)

**SILVANIDAE**

*Ahasverus advena* (Waltl)

**CRYPTOPHAGIDAE**

*Henoticus serratus* (Gyllenhal)  
*Cryptophagus distinguendus* Sturm  
*C. setulosus* Sturm  
*Atomaria apicalis* Erichson  
*A. nitidula* (Marsham)  
*A. fuscicollis* Mannerheim  
*Ephistemus globulus* (Paykull)

**BIPHYLLIDAE**

*Diplocoelus fagi* Guérin-Ménéville

**CORYLOPHIDAE**

*Sericoderus lateralis* (Gyllenhal)

**COCCINELLIDAE**

*Nephus redtenbacheri* (Mulsant)

**LATHRIDIIDAE**

*Lithostygnus serripennis* Broun  
*Aridius bifasciatus* (Reitter)  
*Lathridius pseudominutus* (Strand)  
*Dienerella elongata* (Curtis)  
*D. separanda* (Reitter)

**CISIDAE**

*Cis festinus* (Panzer)  
*Cis vestitus* Mellié  
*Emicarthron cornutum* (Gyllenhal)

New county records = 185  
County list = 1484 species.

**ACKNOWLEDGEMENTS**

We are grateful to the following people for providing us with new county records B.S. Nau (*Tachys parvulus*), T. Thomas (*Licinus depressus*), P.S. Hyman (*Apion astragali*) and to J. Cooter for checking our *Leiodes* specimens.

**TENEBRIONIDAE**

*Alphitobius diaperinus* (Panzer)

**MELANDRYIDAE**

*Orchesia minor* Walker

**SCRAPTIIDAE**

*Anaspis garneysi* Fowler

**MORDELLIDAE**

*Mordellistena pumila* (Gyllenhal)

**BRUCHIDAE**

*Bruchus loti* Paykull

**CHRYSOMELIDAE**

*Phyllotreta nigripes* (Fabricius)  
*Aphthona atrocaerulea* (Stephens)  
*A. atrovirens* Foerster  
*Longitarsus exoletus* (Linnaeus)  
*L. succineus* (Foudras)  
*L. suturellus* (Duftschmid)  
*Batophila aerata* (Marsham)  
*Epitrix pubescens* (Koch)  
*Apteropeda globosa* (Illiger)

**ATTELABIDAE**

*Deporaus mannerheimi* (Hummel)

**APIONIDAE**

*Apion curtirostre* Germar  
*A. malvae* (Fabricius)  
*A. rufirostre* (Fabricius)  
*A. immune* Kirby  
*A. astragali* (Paykull)  
*A. ervi* Kirby

**CURCULIONIDAE**

*Oriorhynchus desertus* Rosenhauer  
*Trachyploeus bifoveolatus* (Beck)  
*Sitona regensteiniensis* (Herbst)  
*Hypera adspersa* (Fabricius)  
*Acalles ptinoides* (Marsham)  
*Micrelus ericae* (Gyllenhal)  
*Ceutorhynchus alliariae* Brisout  
*C. asperifoliarum* (Gyllenhal)  
*C. melanostictus* (Marsham)  
*C. nigulosus* (Herbst)  
*Limnobaris t-album* (Linnaeus)  
*Rhynchaenus avellanac* (Donovan)



## BEETLES (Coleoptera) Report of the Recorders

During 1990, a varied range of habitats including a small marsh, a sand quarry, gardens and roadside verges were surveyed to assess their beetle fauna. Samples were taken by the standard techniques of pitfall trapping, sweep netting, Tullgren Funnel extractions and water traps, with water netting done whenever possible.

Blows Downs, Dropshort Marsh and 10 Buckwood Avenue have been reported on either in 1988 or 1989 and therefore only new records are given on these sites. Throughout the report the symbol (★) denotes species that are new to the Bedfordshire county list, whilst (RDB3), (Na) and (Nb) are used to indicate rare or Nationally Notable species. A category that we have not used before is (List 3) which is defined as a 'rare synanthropic species' (Hyman 1986).

The nomenclature used follows the *Checklist of British Insects* (Kloet and Hincks 1977) except for the orthocerous weevils which follow the recently published handbook (Morris 1990). The principle change the latter makes to this report is that *Apion minutum* Germar (one of the red Apion weevils) now becomes *Apion frumentarium* (Linnaeus).

### Dropshort Marsh (TL005277)

Number of species recorded: 219

Dropshort Marsh is an SSSI site which comprises a mixture of wetland and drier meadow areas with flora associated with these habitat types. Also present are old, pollarded willows, with oak and mature hedges around the boundaries. Pitfall traps were run in the wettest area from April to the end of December, with other samples taken by Tullgren Funnel extraction of leaf litter and rotten wood, sweep netting and water netting. Beetles were also received from pitfall traps run by Mr T. Thomas on other parts of the site.

**Carabidae**—*Agonum fuliginosum*, *Agonum moestum*, *Agonum muelleri*, *Amara caenea*, *Amara familiaris*, *Amara lunicollis*, *Amara plebeja*, *Amara similata*, *Asaphidion stierlini* ★ (Na), *Bembidion harpaloides*, *Bembidion lampros*, *Calathus picus*, *Demetrias atricapillus*, *Dromius linearis*, *Dromius melanocephalus*, *Dromius quadrimotatus*, *Harpalus rufipes*, *Leicistus rufescens*, *Nebria brevicollis*, *Patrobus atrorufus*, *Pterostichus cupreus*, *Pterostichus diligens*, *Pterostichus vernalis*, *Stomis pumicatus*.

**Dytiscidae**—*Agabus bipustulatus*, *Agabus paludosus*, *Hydroporus memnonius*, *Hydroporus planus*, *Hydroporus tessellatus*.

**Hydrophilidae**—*Anacaena limbata* ★, *Ceryon ustulatus*, *Chaetarthria seminulum*, *Coelostoma orbiculare* ★, *Helophorus angustata*, *Helophorus grandis*, *Hydrotus fuscipes*.

**Histeridae**—*Paromalus flavicornis*.

**Leiodidae**—*Agathidium varians*, *Anisotoma humeralis*, *Catops grandicollis*, *Catops nigricans*, *Catops tristis*, *Choleva angustata*, *Choleva glauca* (Nb), *Leiodes polita*, *Leiodes rugosa* (Na), *Nargus anisotomoides*, *Promaphagus subvillosus*, *Sciodorepoides watsoni*.

**Scaphidiidae**—*Scaphisoma boleti* ★.

**Staphylinidae**—*Aleochara bilineata*, *Aleochara bipustulata*, *Aleochara curtula*, *Aleochara lamiginosa*, *Aleochara sparsa* ★, *Amischa analis*, *Anotylus inustus*, *Anotylus sculpturatus*, *Anotylus tetracarinatus*, *Anthobium atrocephalum*, *Atheta laticollis*, *Callicerus obscurus*, *Carpelimum pusillum* ★, *Haploglossa pulla* ★, *Lesteva longoelytrata*, *Megarhirus depressus*, *Metopsia retusa*, *Mycetoporus splendidus*, *Myllaena infusata* ★, *Oligota punctulata*, *Omalium caesum*, *Omalium excavatum*, *Omalium rivulare*, *Orhnius laeviusculus*, *Oxyopoda elongatula*, *Oxyopoda opaca*, *Philonthus varians*, *Phyllodrepa floralis*, *Plataraca brunnea*, *Platystethus arenarius*, *Proteinus ovalis*, *Quedius fumatus* ★, *Quedius humeralis* (Na), *Quedius mauronifus*, *Quedius nemoralis*, *Quedius picipes*, *Rugilus orbiculatus*, *Rugilus rufipes*, *Sepedophilus marshami*, *Sepedophilus nigripennis*, *Siagonium quadricorne*, *Staphylinus aeneocephalus*, *Staphylinus globulifer*, *Stenus cicindeloides*, *Stenus flavipes*, *Stenus fulvipes*, *Stenus impressus*, *Stenus juno*, *Stenus ossium*, *Stenus picipes*, *Stenus rogeri*, *Stenus similis*, *Syntomium aeneum*, *Tachinus laticollis*, *Tachinus marginellus*, *Tachyporus solutus*, *Xantholinus linearis*, *Xylodromus concinnus*, *Xylodromus depressus*.

**Pselaphidae**—*Bryaxius bulbifer*, *Reichenbachia juncoorum*, *Tychus niger*.

**Scarabaeidae**—*Aphodius contaminatus*, *Aphodius fimetarius*, *Aphodius sphacelatus*.

**Scirtidae**—*Cyphon coarctatus*, *Elodes minuta* (Nb).

**Byrrhidae**—*Cyrtus sericeus*, *Simplocaria semistriata*.

**Dryopidae**—*Dryops ernesti* ★.

**Elateridae**—*Agriotes sputator*, *Athous haemorrhoidalis*.

**Throscidae**—*Trichagus dermatoides*.

**Cantharidae**—*Cantharis decipiens*, *Cantharis lateralis*, *Cantharis nigricans*, *Rhagonycha testacea*.

**Nitidulidae**—*Carpophilus obsoletus*, *Kateretes bipustulatus*, *Kateretes rufiflabris* ★.

**Rhizophagidae**—*Rhizophagus perforatus*.

**Cryptophagidae**—*Atomaria atricapilla*.

**Corylophidae**—*Sericoderus lateralis* ★.

**Coccinellidae**—*Adalia bipunctata*, *Adalia decempunctata*, *Calvia quattuordecimpunctata*, *Chilocorus renipustulatus*, *Coccidula rufa*, *Coccinella septempunctata*, *Exochomus quadripustulatus*, *Propylea quattuordecimpunctata*, *Scymnus auritus*, *Thea vigintiduopunctata*, *Tyrthaspis sedecimpunctata*.

**Endomychidae**—*Mycetaca hirta*.

**Lathridiidae**—*Aridius nodifer*, *Corticicaria gibbosa*, *Lathridius pseudominutus*.

**Cisidae**—*Cis bidentatus*, *Cis boleti*, *Ocotemnius glabriculus*.

**Mycetophagidae**—*Typhaea stercorea*.

**Tenebrionidae**—*Scaphidema metallicum* (Nb).

**Scaptiidae**—*Anaspis humeralis*, *Anaspis maculata*, *Anaspis regimbarti*.

**Anthicidae**—*Anthicus floralis*.

**Cerambycidae**—*Agapanthia villosiviridescens*, *Grammoptera ruficornis*, *Tetrops praecusta*.

**Bruchidae**—*Bruchus rufimanus*.

**Chrysomelidae**—*Altica lythri*, *Aphthona atrocaerulea*, *Cassida flaveola*, *Cassida rubiginosa*, *Chalcoides fulvicornis*, *Chalcoides plutus*, *Chrysolina polita*, *Chrysolina staphylaea*, *Gastrophysa polygoni*, *Gastrophysa viridula*, *Lochmaea crataegi*, *Longitarsus luridus*, *Mantura rustica* (Nb), *Oulema lichenis*, *Oulema melanopa*, *Phaedon tumidulus*, *Plagioderia versicolora*, *Prasocuris junci*, *Psylliodes affinis*, *Psylliodes chrysocephala*, *Sphaeroderma testaceum*.

**Atelabidae**—*Rhynchites aequatus*.

**Apionidae**—*Apion carduorum*, *Apion craccae*, *Apion curtirostre*, *Apion dichroum*, *Apion ervi*, *Apion frumentarium*, *Apion hydrolopathi*, *Apion nigritarse*, *Apion subulatum*, *Apion trifolii*, *Apion viciae*, *Apion virens*, *Apion vorax*.

**Curculionidae**—*Barynotus obscurus*, *Barypeithes araneiformis*, *Ceutorhynchus melanostictus* ★, *Ceutorhynchus pollinaris*, *Ceutorhynchus quadridens*, *Cidnothius quadrimaculatus*, *Cionus alauda*, *Cionus hortulanus*, *Cionus scrophulariae*, *Cuorhynchus plumbis*, *Curculio salicivorus*, *Curculio equiseti* (Nb), *Hypera adspersa* ★, *Hypera plantaginis*, *Hypera punctata*, *Leiosoma deflexum*, *Phyllobius maculicornis*, *Phyllobius pyri*, *Phyllobius roboratus*, *Rhynchaenus avellanae* ★, *Rhynchaenus quercus*, *Strophosomus sus*.

### Sandy Quarry (TL207492)

Number of species recorded: 175

This site is owned by Redland Aggregates, and consists mostly of a working sand quarry. However, the eastern end of the pit has not been worked or the last fifteen years; slopes have been restored and a plantation created. The floor of the quarry has a wet hollow which has been naturally colonised by birch and willow, with broom growing on some slopes. On the 8th June a sample of leaf litter was taken and pitfall traps set in the wet and dry areas of the quarry floor and on the slopes.

**Carabidae**—*Acupalpus dubius*, *Amara apricaria*, *Amara familiaris*, *Amara fulva* (Nb), *Amara lunicollis*, *Amara plebeja*, *Amara tibialis*, *Bembidion guttula*, *Bembidion lampros*, *Bembidion lunulatum*, *Bembidion obtusum*, *Bembidion tetracolum*, *Bradycellus harpalinus*, *Calathus ambiguus*, *Calathus fuscipes*, *Calathus melanoccephalus*, *Carabus nemoralis*, *Demetrias atricapillus*, *Harpalus affinis*, *Harpalus rubripes*, *Harpalus rufipes*, *Harpalus tardus*, *Laemostenus terricola* (Nb), *Leistus ferrugineus*, *Leistus spinibarbis*, *Metabellus foveatus*, *Nebria brevicollis*, *Notiophilus biguttatus*, *Pterostichus cupreus*, *Pterostichus madidus*, *Pterostichus melanarius*, *Pterostichus niger*, *Pterostichus nigrita*, *Pterostichus strenuus*, *Pterostichus venalis*, *Synuchus nivalis*, *Trechus obtusus*, *Trechus quadristriatus*.

**Hydrophilidae**—*Helophorus brevipalpis*, *Helophorus nubilis*, *Helophorus rufipes*, *Megasternum obscurum*.

**Hydraenidae**—*Ochthebius bicolor*.

**Leiodidae**—*Agathidium laevigatum*, *Catops chrysomeloides*, *Catops fuliginosus*, *Catops grandicollis*, *Catops nigricans*, *Catops tristis*, *Cyrtusa paucilla* ★ (Nb), *Leiodes obesa* (Nb), *Leiodes polita*, *Nargus velox*, *Ptomaphagus subvillosus*, *Sciodepoides watsoni*.

**Silphidae**—*Nicrophorus humator*.

**Scydmaenidae**—*Scydmaenus tarsatus*.

**Staphylinidae**—*Anotylus inustus*, *Anotylus rugosus*, *Anotylus sculpturatus*, *Anotylus tetracarinus*, *Anthobium unicolor*, *Atheta fungi*, *Autalia impressa*, *Bledius gallicus*, *Carpelimus corticinus*, *Carpelimus elongatulus*, *Drusilla canaliculata*, *Gabrieus pennatus*, *Habrocerus capillaricornis*, *Lathrobium fulvipes*, *Lathrobium terminatum*, *Lesteva heeri*, *Lordithon thoracicus*, *Metopsia retusa*, *Micropeplus staphylinoides*, *Mycetoporus splendidus*, *Olophrum piceum*, *Omalium caesum*, *Omalium excavatum*, *Omalium rivulare*, *Othius laeviusculus*, *Othius myrmecophilus*, *Othius punctulatus*, *Oxygoda lividipennis*, *Philonthus cognatus*, *Philonthus laminatus*, *Philonthus varius*, *Platydracus stercorarius*, *Proteinus brachypterus*, *Proteinus ovalis*, *Quedius boops*, *Quedius fuliginosus*, *Quedius humeralis*, *Quedius molochinus*, *Quedius picipes*, *Quedius senioscurus*, *Quedius tristis*, *Rugilus erichsoni*, *Rugilus orbiculatus*, *Sepedophilus marshami*, *Sepedophilus nigripennis*, *Staphylinus aeneocephalus*, *Staphylinus brunneipes*, *Staphylinus compressus*, *Staphylinus oleus*, *Staphylinus ophthalmicus* ★ (RDB3), *Stenus bimaculatus*, *Stenus clavicornis*, *Stenus impressus*, *Stenus juno*, *Stenus pusillus* ★, *Sunius propinquus*, *Tachinus flavolinbatus* ★ (Nb), *Tachinus signatus*, *Tachyporus chrysomelinus*, *Tachyporus hypnorum*, *Tachyporus nitidulus*, *Tachyporus obtusus*, *Tachyporus solutus*, *Tachyporus transversalis* ★, *Xantholinus glabratus*, *Xantholinus linearis*, *Xantholinus longiventris*, *Xantholinus jarrigei*.

**Geotrupidae**—*Typhaeus typhoeus*.

**Scarabaeidae**—*Serica brunnea*.

**Byrrhidae**—*Simpliocaria semistriata*.

**Nitidulidae**—*Brachypterus urticae*, *Epuraca pusilla* ★, *Glischrochilus hortensis*, *Meligethes aeneus*.

**Cryptophagidae**—*Atomaria atricapilla*, *Atomaria fuscicollis*, *Cryptophagus setulosus*, *Ephistemus globulus*.

**Coccinellidae**—*Coccinella septempunctata*, *Rhyzobius linra*.

**Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*, *Corticicaria gibbosa*, *Enicmus histrio*, *Stephostethus lardarius*.

**Tenebrionidae**—*Lageria hirta*.

**Mordellidae**—*Mordellistena pumila* ★.

**Anthicidae**—*Notoxus monocerus*.

**Bruchidae**—*Bruchidius ater*.

**Chrysomelidae**—*Aphthona atrocaerulea*, *Chaetocnema hortensis*, *Chalcoides aurata*, *Chalcoides fulvicornis*, *Crepidodera ferruginea*, *Gastrophysa polygoni*, *Oulema melanopa*, *Phytodecta olivacea*, *Sphaeroderma testaceum*.

**Apionidae**—*Apion aethiops*, *Apion dichroum*, *Apion immune* ★, *Apion frumentarium*.

**Curculionidae**—*Ceutorhynchus pollinarius*, *Cidnorhinus quadrimaculatus*, *Gymnetron pascuorum*, *Hypera punctata*, *Microtrogus picirostris*, *Oriorhynchus ligneus*, *Oriorhynchus ovatus*, *Oriorhynchus sulcatus*, *Phytobius quadrituberculatus*, *Sitona hispidulus*, *Sitona lineatus*, *Sitona regensteiniensis* ★, *Trachyploeus bifoveolatus* ★.

**Scolytidae**—*Phloeophthorus rhododactylus*.

#### Blooms Downs (TL040220)

Number of species recorded: 18

SSSI. Chalk downland with areas of hawthorn scrub and open grassland which is kept short by grazing.

Previous pitfall trapping has concentrated on Skimpot Quarry, but a request was received from N.C.C. to survey a larger area. On the 14th October traps were set in the quarry, in grassland and in hawthorn scrub.

**Carabidae**—*Leistus ferrugineus*, *Leistus*, *rufomarginatus*.

**Leiodidae**—*Choleva angustata*, *Hydnobius punctatus* (Nb).

**Staphylinidae**—*Amischa decipiens*, *Anthobium atrocephalum*, *Cypha longicornis*, *Liogluta pagana* ★, *Oxypoda lividipennis*, *Philonthus laminatus*, *Proteinus ovalis*, *Quedius cinctus*, *Quedius tristis*, *Tachyporus nitidulus*, *Xantholinus linearis*.

**Phalacridae**—*Stilbus testaceus*.

**Chrysomelidae**—*Chaetocnema concinna*.

**Curculionidae**—*Microtrogus picirostris*.

#### Bromham Mill (TL011508)

Number of species recorded: 40

Bromham Mill was visited on the 7th May and samples taken from willows and vegetation growing on the banks of the River Ouse, and from stretches of sterile mud at the rivers edges. Water netting also produced beetles from amongst marginal aquatic plants.

**Carabidae**—*Bembidion lunulatum*.

**Halipilidae**—*Halipilus lineatocollis*.

**Dytiscidae**—*Laccophilus hyalinus*.

**Hydrophilidae**—*Anaena bipustulata*, *Anaena limbata* ★, *Helochares lividus*, *Helophorus brevipalpis*, *Laccobius sinuatus*.

**Scirtidae**—*Cyphon palustris* ★.

**Heteroceridae**—*Heterocerus fenestratus*.

**Elateridae**—*Selatosomus incanus* ★.

**Nitidulidae**—*Meligethes aeneus*.

**Coccinellidae**—*Adalia bipunctata*, *Adalia decempunctata*, *Calvia quattuordecimpunctata*, *Coccinella septempunctata*, *Propylea quattuordecimpunctata*.

**Scraptiidae**—*Anaspis humeralis*.

**Chrysomelidae**—*Cassida rubiginosa*, *Chaetocnema concinna*, *Chalcoides fulvicornis*, *Chalcoides plutus*, *Galerucella lineola*, *Gastrophysa viridula*, *Hydrothassa marginella*, *Phaedon tumidulus*, *Phyllodecta vulgaticissima*, *Phyllotreta undulata*, *Psylliodes affinis*.

**Apionidae**—*Apion hydrolopathi*.

**Curculionidae**—*Ceutorhynchus pollinarius*, *Cidnorhinus quadrimaculatus*, *Cionus alauda*, *Phyllobius pomaceus*.

#### Sallow Springs (TL007185)

Number of species recorded: 70

Sallow Springs is a small recently acquired site belonging to the Wildlife Trust. Situated at Whipsnade, it covers an area of two acres, of which most is slightly improved grassland. One edge is bounded by a hedgerow containing oak, holly, blackthorn and ash, and a long narrow spur of woodland branches from one corner of the meadow. A sample of leaf litter was taken, and pitfall traps set, on the 4th November. The study of the beetle fauna will form part of a larger survey of the site which will give baseline data before management practices take effect.

**Carabidae**—*Amara plebeja*, *Bembidion lunulatum*, *Bembidion obtusum*, *Leistus ferrugineus*, *Nebria brevicollis*, *Pterostichus madidus*, *Pterostichus strenuus*, *Trechus obtusus*.

**Hydrophilidae**—*Anaena globulus*, *Helophorus brevipalpis*, *Megasternum obscurum*.

**Leiodidae**—*Agathidium nigrinum*, *Catops fuliginosus*, *Catops nigricans*, *Choleva oblonga*, *Choleva spadicea*, *Nargus velox*, *Nargus wilkinki*.

**Staphylinidae**—*Acidota cruentata* (Nb), *Aloconota gregaria*, *Amischa decipiens*, *Anotylus inustus*, *Anotylus sculpturatus*, *Anthobium atrocephalum*, *Anthobium unicolor*, *Atheta fungi*, *Atheta trinotata*, *Bolitobius inclinans* (Nb), *Cypha longicornis*, *Lathrobium geminum*, *Lesteva heeri*, *Metopsia retusa*, *Micropeplus staphylinoides*, *Olophrum piceum*, *Omalius caesum*, *Omalius italicum*, *Omalius rivularis*, *Othius myrmecophilus*, *Proteinus brachypterus*, *Quedius cinctus*, *Quedius fuliginosus*, *Quedius fumatus* ★, *Staphylinus globulifer*, *Stenus brunripes*, *Stenus impressus*, *Syntomium aeneum*, *Tachinus marginellus*, *Tachyporus chrysolinus*, *Tachyporus hypnorum*, *Tachyporus nitidulus*, *Tachyporus obtusus*, *Xantholinus linearis*.

**Pselaphidae**—*Bibloporus bicolor*.

**Cryptophagidae**—*Atomaria atricapilla*.

**Coccinellidae**—*Coccinella septempunctata*.

**Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*, *Corticinara gibbosa*, *Enicmus histrio*, *Stephostethus lardarius*.

**Chrysomelidae**—*Chaetocnema concinna*, *Longitarsus luridus*, *Longitarsus melanocephalus*, *Oulema melanopa*, *Phaedon tumidulus*.

**Curculionidae**—*Ceutorhynchus floralis*, *Ceutorhynchus pollinarius*, *Gymnetron pascuorum*, *Leiosoma deflexum*, *Sitona lineatus*.

## ROADSIDE VERGES

The following nine sites are all roadside verges, and were selected for study because they were already designated as Road Verge Nature Reserves (Fox Corner), had previously been identified as botanically interesting (Eyeworth, Wating Street, Well Head, Wrestlingworth) or simply because the verges or surroundings appeared to have potential interest to the Recorders (Beech Road, Billington, Brogborough, Caddington). Samples were taken by a combination of pitfall trapping, sweep netting and Tullgren Funnel extractions at various times during the year.

## Fox Corner, Heath Reach (SP925289)

Number of species recorded: 91

- Carabidae**—*Amara lunicollis*, *Badister bipustulatus*, *Calathus fuscipes*, *Calathus piceus*, *Carabus nemoralis*, *Cychrus caraboides*, *Harpalus rubripes*, *Harpalus rufibarbis*, *Harpalus tardus*, *Leistus ferrugineus*, *Leistus rufomarginatus*, *Leistus spinibarbis*, *Nebria brevicollis*, *Notiophilus biguttatus*, *Notiophilus rufipes*, *Notiophilus substriatus*, *Panagaeus bipustulatus* ★ (Nb), *Pterostichus madidus*, *Pterostichus melanarius*, *Pterostichus strenuus*, *Synuchus nivalis*, *Trechus quadristriatus*.
- Hydrophilidae**—*Megasternum obscurum*.
- Leiodidae**—*Aqathidium laevigatum*, *Aqathidium nigrinum*, *Catops grandicollis*, *Catops nigricans*, *Leiodes polita*, *Nargus anisotomoides*, *Nargus velox*.
- Scydmaenidae**—*Cephenium gallicum*.
- Staphylinidae**—*Aleochara ruficornis* (Nb), *Anotylus rugosus*, *Anotylus sculpturatus*, *Anthobium unicolor*, *Drusilla canaliculata*, *Metopsia retusa*, *Micropelus staphylinoides*, *Olophrum piceum*, *Othius punctulatus*, *Oxygoda spectabilis*, *Plataraea brunnea*, *Quedius fuliginosus*, *Quedius molochinus*, *Rugilus rufipes*, *Sepedophilus marshami*, *Sepedophilus nigripennis*, *Staphylinus compressus*, *Stenus bimaculatus*, *Stenus clavicornis*, *Tachyporus chrysomelinus*, *Tachyporus nitidulus*, *Tachyporus solutus*.
- Scarabaeidae**—*Phyllopertha horticola*.
- Elateridae**—*Agriotes obscurus*, *Agriotes sputator*.
- Throscidae**—*Trixaqus dermestoides*.
- Cantharidae**—*Cantharis rustica*.
- Nitidulidae**—*Meligethes aeneus*, *Soronia grisea*.
- Cryptophagidae**—*Atomaria atricapilla*, *Micrambe vini*.
- Byturidae**—*Byturus tomentosus*.
- Coccinellidae**—*Coccinella septempunctata*.
- Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*, *Corticaria gibbosa*, *Enicmus histrio*.
- Tenebrionidae**—*Isomira murina*, *Laagri hirta*.
- Pyrochroidae**—*Pyrochroa serraticornis*.
- Oedemeridae**—*Oedemera lurida*.
- Bruchidae**—*Bruchidius ater*.
- Chrysomelidae**—*Chaetocnema hortensis*, *Chrysolina staphylaea*, *Sphaeroderma testaceum*.
- Curculionidae**—*Anthonomus rubi*, *Barypeithes pellucidus*, *Ceuthorrhynchidius troglodytes*, *Ceuthorrhynchus floralis*, *Ceuthorrhynchus pollinarius*, *Cidnorhinus quadrimaculatus*, *Euophryum confine*, *Gymnetron pascuorum*, *Microtrogus pictirostris*, *Otiorrhynchus rarus* (Nb), *Otiorrhynchus singularis*, *Phyllobius roboretanus*, *Sitona humeralis*, *Sitona lineatus*, *Sitona regensteiniensis* ★.

## Eyeworth (TL252449)

Number of species recorded: 92

- Carabidae**—*Agonum dorsale*, *Amara plebeja*, *Amara similata*, *Badister bipustulatus*, *Bembidion biguttatum*, *Bembidion lampros*, *Bembidion quadrimaculatum*, *Carabus violaceus*, *Clivina fossor*, *Demetrias atricapillus*, *Dromius linearis*, *Harpalus affinis*, *Harpalus rufibarbis*, *Leistus ferrugineus*, *Notiophilus biguttatus*, *Pterostichus cupreus*, *Pterostichus melanarius*, *Pterostichus niger*, *Trechus quadristriatus*.
- Hydrophilidae**—*Megasternum obscurum*.
- Leiodidae**—*Catops nigricans*, *Choleva angustata*, *Colenis immunda* (Nb), *Colon serripes* (Na), *Nargus anisotomoides*, *Nargus velox*.
- Scydmaenidae**—*Cephenium gallicum*.
- Staphylinidae**—*Aleochara bipustulata*, *Aleochara gregaria*, *Anotylus inustus*, *Anotylus rugosus*, *Anotylus sculpturatus*, *Atheta fungi*, *Carpelinus elongatulus*, *Drusilla canaliculata*, *Lathrobium fulvipenne*, *Lesteva heeri*, *Metopsia retusa*, *Micropelus staphylinoides*, *Omalius excavatum*, *Omalius italicum*, *Plataraea brunnea*, *Quedius fuliginosus*, *Quedius mauronifus*, *Staphylinus brunneipes*, *Stenus brunneipes*, *Stenus pusillus* ★, *Tachinus signatus*, *Tachyporus chrysomelinus*, *Tachyporus hypnorum*, *Tachyporus nitidulus*, *Tachyporus obtusus*, *Tachyporus solutus*, *Xantholobus linearis*.
- Pselaphidae**—*Pselaphus heisei*.
- Elateridae**—*Agriotes obscurus*, *Athous haemorrhoidalis*.
- Cantharidae**—*Malthodes minimus*.
- Nitidulidae**—*Meligethes aeneus*.
- Cryptophagidae**—*Atomaria atricapilla*, *Atomaria fuscicollis*, *Atomaria linearis*.
- Phalacridae**—*Stilbus testaceus*.
- Coccinellidae**—*Coccinella septempunctata*, *Exochomus quadripustulatus*, *Subcoccinella vigintiquatuorpunctata*, *Thea vigintiduopunctata*, *Tyrtaspis sedecimpunctata*.
- Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*, *Corticaria fuscula*, *Enicmus histrio*, *Stephostethus lardarius*.
- Scraptiidae**—*Anaspis maculata*.
- Tenebrionidae**—*Laagri hirta*, *Scaphidema metallicum* (Nb).
- Chrysomelidae**—*Altica lythri*, *Batophila aerea* ★ (Nb), *Cassida rubiginosa*, *Chaetocnema concinna*, *Epitrix pubescens* ★, *Oulema melanopa*, *Phaedon tumidulus*, *Phyllotreta ochripes*.
- Curculionidae**—*Barynotus obscurus*, *Barypeithes araneiformis*, *Barypeithes pellucidus*, *Cidnorhinus quadrimaculatus*, *Leiosoma deflexum*, *Liophiloeus tessulatus*, *Phyllobius roboretanus*, *Sitona lineatus*.

**A5 (Watling Street) (SP945293)**

Number of species recorded: 53

**Carabidae**—*Abax parallelepipedus*, *Badister bipustulatus*, *Nebria brevicollis*, *Notiophilus biguttatus*, *Pterostichus cupreus*, *Pterostichus madidus*, *Pterostichus melanarius*, *Pterostichus niger*, *Trechus quadristriatus*.

**Hydrophilidae**—*Megasternum obscurum*.

**Leiodidae**—*Catops fuliginosus*, *Catops nigricans*, *Catops tristis*, *Choleva angustata*, *Colon serripes* (Na), *Nargus anisotomoides*, *Nargus velox*, *Ptomaphagus subvillosus*.

**Scydmaenidae**—*Cephennum gallicum*.

**Staphylinidae**—*Anotylus inustus*, *Anotylus sculpturatus*, *Drusilla canaliculata*, *Micropeplus fulvus*, *Micropeplus staphylinoides*, *Omalium caesum*, *Othius punctulatus*, *Plataraea brunnea*, *Platydracus stercorarius*, *Quedius cinctus*, *Staphylinus globulifer*, *Stenus clavicornis*, *Tachyporus hypnorum*, *Tachyporus nitidulus*, *Xantholinus linearis*.

**Elateridae**—*Agriotes sputator*.

**Nitidulidae**—*Meligethes aeneus*.

**Lathridiidae**—*Aridius bifasciatus*, *Corticarina fuscula*, *Dienerella separanda*, *Enicmus histrio*, *Stephostethus lardarius*.

**Tenebrionidae**—*Laqria hirta*.

**Apionidae**—*Apion carduorum*, *Apion curtirostre*, *Apion loti*.

**Curculionidae**—*Barypeithes araneiformis*, *Barypeithes pellicidus*, *Ceuthorhynchidius troglodytes*, *Hypera postica*, *Phyllobius roboretanus*, *Sitona lineatus*.

**Dunstable (verges by Well Head) (SP998202)**

Number of species recorded: 108

**Carabidae**—*Amara aenea*, *Amara aulica*, *Amara plebeja*, *Bembidion guttula*, *Bembidion lampros*, *Calathus fuscipes*, *Carabus violaceus*, *Cychrus caraboides*, *Dromius linearis*, *Harpalus latus*, *Harpalus rufibarbis*, *Leistus ferrugineus*, *Leistus rufomarginatus*, *Leistus spinibarbis*, *Loricera pilicornis*, *Nebria brevicollis*, *Notiophilus palustris*, *Pterostichus madidus*.

**Hydrophilidae**—*Megasternum obscurum*.

**Leiodidae**—*Catops nigricans*, *Choleva angustata*, *Choleva oblonga*, *Leiodes badia* (Nb), *Leiodes polita*, *Nargus velox*, *Ptomaphagus subvillosus*, *Ptomaphagus varicornis* (Na).

**Staphylinidae**—*Aloconota gregaria*, *Anotylus inustus*, *Anotylus sculpturatus*, *Anthobium unicolor*, *Bolitobius analis*, *Chiloporata longitarsis*, *Cypha longicornis*, *Drusilla canaliculata*, *Lioglutia pagana* ★, *Micropeplus staphylinoides*, *Olophrum piceum*, *Othius laeviusculus*, *Othius myrmecophilus*, *Othius punctulatus*, *Philonthus cognatus*, *Platydracus latebricola* (Nb), *Platystethus nitens*, *Quedius fuliginosus*, *Quedius molochinus*, *Quedius semiobscurus*, *Staphylinus aeneocephalus*, *Staphylinus globulifer*, *Stenus clavicornis*, *Tachinus signatus*, *Tachyporus chrysomelinus*, *Tachyporus hypnorum*, *Tachyporus nitidulus*.

**Byrrhidae**—*Byrrhus pilula*.

**Elateridae**—*Agriotes obscurus*, *Agriotes sputator*, *Athous haemorrhoidalis*.

**Cantharidae**—*Rhagonycha fulva*, *Rhagonycha testacea*.

**Melyridae**—*Malachius bipustulatus*.

**Nitidulidae**—*Meligethes aeneus*, *Meligethes nigrescens*.

**Cryptophagidae**—*Cryptophagus setulosus*.

**Byturidae**—*Byturus tomentosus*.

**Coccinellidae**—*Nephus redtenbacheri* ★, *Thea vigintiduopunctata*.

**Lathridiidae**—*Aridius bifasciatus*, *Corticarina fuscula*, *Enicmus histrio*, *Stephostethus lardarius*.

**Mordellidae**—*Mordellistena pumila* ★.

**Oedemeridae**—*Oedemera lurida*.

**Chrysomelidae**—*Apteropeda globosa* ★ (Na), *Apteropeda orbiculata*, *Cassida rubiginosa*, *Chaetocnema hortensis*, *Crepidodera ferruginea*, *Crepidodera transversa*, *Lema cyanella* (Nb), *Longitarsus luridus*, *Phaedon tumidulus*, *Phyllotreta undulata*, *Psylliodes chrysocephala*.

**Apionidae**—*Apion assimile*, *Apion carduorum*, *Apion erui*, *Apion hydrolopathi*, *Apion virens*.

**Curculionidae**—*Barypeithes pellicidus*, *Brachysonus echinatus* (Nb), *Ceuthorhynchidius troglodytes*, *Ceuthorhynchus assimilis*, *Ceuthorhynchus contractus*, *Ceuthorhynchus pollinarius*, *Ceuthorhynchus pyrrohorhynchus*, *Ceuthorhynchus quadridens*, *Ceuthorhynchus rugulosus* ★, *Cidnorrhynchus quadrimaculatus*, *Gymnetron pascuorum*, *Mecinus pyraeaster*, *Phyllobius pomaceus*, *Phyllobius pyri*, *Phyllobius roboretanus*, *Ramphus pulicarius*, *Sciaphilus asperatus*, *Sitona lineatus*, *Stenocarus umbrinus* (Nb).

**Wrestlingworth (TL265460)**

Number of species recorded: 86

**Carabidae**—*Amara aenea*, *Amara similata*, *Badister bipustulatus*, *Bembidion guttula*, *Bembidion lampros*, *Bembidion obtusum*, *Carabus violaceus*, *Demetrias atricapillus*, *Dromius linearis*, *Harpalus rufipes*, *Pterostichus cupreus*, *Pterostichus madidus*, *Pterostichus melanarius*, *Stomis pumicatus*, *Trechus quadristriatus*.

**Hydrophilidae**—*Anacaena globulus*, *Cercyon atomarius*, *Cercyon haemorrhoidalis*, *Megasternum obscurum*, *Sphaeridium scaraboides*.

**Leiodidae**—*Catops nigricans*, *Nargus velox*, *Ptomaphagus subvillosus*.

**Scydmaenidae**—*Cephennum gallicum*.

**Staphylinidae**—*Aleochara bipustulata*, *Aleochara lanuginosa*, *Anotylus inustus*, *Anotylus rugosus*, *Anotylus sculpturatus*, *Anotylus tetracariniatus*, *Atheta atramentaria*, *Bolitobius analis*, *Cypha longicornis*, *Drusilla canaliculata*, *Othius laeviusculus*, *Philonthus cognatus*, *Quedius fuliginosus*, *Rugilus orbiculatus*, *Rugilus rufipes*, *Sepedophilus marshami*, *Sepedophilus nigripennis*, *Staphylinus olens*, *Stenus clavicornis*, *Tachinus signatus*, *Tachyporus chrysomelinus*, *Tachyporus hypnorum*, *Tachyporus nitidulus*, *Tachyporus obtusus*, *Tachyporus solutus*, *Xantholinus linearis*.

**Scarabaeidae**—*Aphodius ater*, *Aphodius spachelatus*.

**Elateridae**—*Agriotes obscurus*, *Agriotes sputator*.

- Nitidulidae**—*Glischrochilus hortensis*, *Meligethes aeneus*.  
**Cryptophagidae**—*Atomaria atricapilla*, *Atomaria linearis*.  
**Byturidae**—*Byturus tomentosus*.  
**Corylophidae**—*Sericoderus lateralis* ★.  
**Coccinellidae**—*Coccinella septempunctata*, *Coccinella undecimpunctata*, *Subcoccinella vigintiquatuor punctata*, *Tytthaspis sedecimpunctata*.  
**Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*, *Corticarina fuscula*, *Corticarina gibbosa*, *Enicmus histrio*, *Stephostethus lardarius*.  
**Mycetophagidae**—*Typhaea stercorea*.  
**Tenebrionidae**—*Lagria hirta*.  
**Anthicidae**—*Anthicus floralis*.  
**Chrysomelidae**—*Lochmaea suturalis*, *Phaedon tumidulus*, *Psylliodes chrysocephala*.  
**Apionidae**—*Apion hydrolopathi*, *Apion virens*.  
**Curculionidae**—*Barypeithes pellucidus*, *Ceutorhynchidius troglodytes*, *Ceutorhynchus assimilis*, *Cidnorhinus quadrimaculatus*, *Euophryum confine*, *Leiosoma deflexum*, *Phyllobius roboretanus*, *Sitona lineatus*.

**Beech Road, Dunstable (TL031198)**

Number of species recorded: 180

- Carabidae**—*Agonum dorsale*, *Amara aenea*, *Amara familiaris*, *Asaphidion curtum* (Na), *Badister bipustulatus*, *Badister sodalis* (Nb), *Bembidion guttula*, *Bembidion lampros*, *Bembidion lunulatum*, *Bembidion quadrimaculatum*, *Carabus violaceus*, *Dromius melanocephalus*, *Harpalus rufibarbis*, *Leistus ferrugineus*, *Leistus fulvibarbis*, *Leistus rufomarginatus*, *Leistus spinibarbis*, *Loricera pilicornis*, *Nebria brevicollis*, *Notiophilus biguttatus*, *Pterostichus madidus*, *Pterostichus melanarius*, *Pterostichus strenuus*, *Stomis pumicatus*, *Trechus quadristriatus*.  
**Hydrophilidae**—*Cercyon analis*, *Helophorus grandis*, *Megasternum obscurum*.  
**Histeridae**—*Hister impressus*.  
**Ptiliidae**—*Prenidium pusillum*.  
**Leiodidae**—*Anisotoma humeralis*, *Catops fuliginosus*, *Catops nigricans*, *Catops tristis*, *Choleva agilis*, *Choleva angustata*, *Choleva oblonga*, *Coleus inmundus* (Nb), *Colon brunneum* (Nb), *Nargus velox*, *Nargus wilkii*, *Ptomaphagus subvillosus*, *Ptomaphagus varicornis* (Na).  
**Staphylinidae**—*Aleochara lanuginosa*, *Anotylus complanatus*, *Anotylus inustus*, *Anotylus rugosus*, *Anotylus sculpturatus*, *Anotylus tetracarinatus*, *Anthobium atrocephalum*, *Anthobium unicolor*, *Astenus pulchellus*, *Atheta fungi*, *Atheta hypnorum*, *Atheta laticollis*, *Atheta luridipennis*, *Atheta triangulum* ★, *Atheta xanthopus* ★, *Autalia impressa*, *Callicerus obscurus*, *Callicerus rigidicornis* ★, *Carpelinus bilineatus*, *Carpelinus fuliginosus* ★ (Nb), *Carpelinus pusillus* ★, *Chiloporata longitarsis*, *Cypha longicornis*, *Eusphalerum luteum*, *Gauropterus fulgidus* ★ (Nb), *Gyrophypus punctulatus*, *Lathrobium geminum*, *Levesta heeri*, *Levesta longaeolylrata*, *Lioglyta oblongiuscula* ★, *Lioglyta pagana* ★, *Micropeplus fulvus*, *Micropeplus staphylinoides*, *Mycetoporus nigricollis* (Nb), *Oligota punctulata*, *Olophrum piceum*, *Omalium caesium*, *Omalium excavatum*, *Omalium italicum*, *Omalium rivulare*, *Othius punctulatus*, *Oxyopoda brachyptera* ★, *Oxyopoda lividipennis*, *Oxyopoda opaca*, *Oxyopoda umbrata*, *Philonthus decorus*, *Philonthus finetarius*, *Philonthus laminatus*, *Philonthus varius*, *Plataraea brunnea*, *Platystethus arenarius*, *Platystethus nitens*, *Proteinus brachypterus*, *Proteinus macropterus*, *Proteinus ovalis*, *Quedius cinctus*, *Quedius cruentus*, *Quedius fuliginosus*, *Rugilus rufipes*, *Sepedophilus marshamii*, *Staphylinus globulifer*, *Staphylinus nero* (RDB3), *Stenus brunneipes*, *Stenus clavicornis*, *Stenus impressus*, *Stenus subaeneus* ★, *Tachinus marginellus*, *Tachinus signatus*, *Tachyporus chrysomelinus*, *Tachyporus hypnorum*, *Tachyporus nitidulus*, *Tachyporus obtusus*, *Tachyporus solutus*, *Xantholinus longiventris*.  
**Pselaphidae**—*Euplectes nanus*, *Pselaphus heisei*.  
**Byrrhidae**—*Simplocaria semistriata*.  
**Elateridae**—*Agriotes obscurus*, *Agriotes sputator*, *Athous haemorrhoidalis*.  
**Cantharidae**—*Cantharis decipiens*, *Malthinus balteatus* ★, *Malthinus flavoculus*, *Malthodes minimus*, *Rhagonycha femoralis*, *Rhagonycha lignosa*, *Rhagonycha lutea*.  
**Melyridae**—*Malachius bipustulatus*.  
**Nitidulidae**—*Brachypterus urticae*, *Epuraca florea*, *Meligethes aeneus*, *Meligethes atratus*.  
**Sphindidae**—*Aspidiphorus orbiculatus* ★.  
**Cryptophagidae**—*Atomaria atricapilla*, *Cryptophagus setulosus*.  
**Cerylonidae**—*Annomatus duodecimstriatus* (List 3).  
**Coccinellidae**—*Adalia bipunctata*, *Coccinella septempunctata*, *Propylea quatuordecimpunctata*.  
**Endomychidae**—*Mycetaea hirta*, *Sphaerosoma piliferum*.  
**Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*, *Dienereella ruficollis*, *Enicmus histrio*, *Stephostethus lardarius*.  
**Salpingidae**—*Rhinusimus planirostris*, *Vincenzellus ruficollis*.  
**Scraptiidae**—*Anaspis maculata*, *Anaspis regimbarti*, *Anaspis rufiflavis*.  
**Cerambycidae**—*Acapanthia villosoides* (Nb).  
**Chrysomelidae**—*Chaetocnema concinna*, *Chaetocnema hortensis*, *Chrysolina staphylaea*, *Longitarsus luridus*, *Longitarsus suturalis* ★, *Oulema melanopa*, *Phaedon tumidulus*, *Phyllotreta undulata*, *Psylliodes affinis*, *Timarcha tenebricosa*.  
**Apionidae**—*Apion hydrolopathi*.  
**Curculionidae**—*Barypeithes araneiformis*, *Barypeithes pellucidus*, *Ceutorhynchus assimilis*, *Ceutorhynchus erysimi*, *Ceutorhynchus pollinaris*, *Ceutorhynchus quadricus*, *Cidnorhinus quadrimaculatus*, *Dorytomus dejeani*, *Leiosoma deflexum*, *Phyllobius pomaceus*, *Phyllobius roboretanus*, *Phytobius quadrituberculatus*, *Sciaphilus asperatus*, *Sitona lineatus*.

## Billington (SP954219)

Number of species recorded: 52

**Carabidae**—*Bembidion guttula*.**Hydrophilidae**—*Cercyon atomarius*, *Cercyon quisquilius*, *Cryptopleurum minutum*, *Helophorus grandis*.**Staphylinidae**—*Anotylus sculptratus*, *Callicerus obscurus*, *Dinaraea angustula* ★, *Lathrobium geminum*, *Platystethus arenarius*, *Platystethus nitens*, *Tachyporus hypnorum*, *Tachyporus nitidulus*.**Scarabaeidae**—*Aphodius fimetarius*.**Cantharidae**—*Cantharis lateralis*, *Cantharis rufa*, *Rhagonycha fovealis*.**Melyridae**—*Anthocomus fasciatus* ★, *Malachius bipustulatus*.**Nitidulidae**—*Brachypterus urticae*, *Meligethes aeneus*.**Coccinellidae**—*Adalia bipunctata*, *Propylea quattuordecimpunctata*, *Rhizophobus litura*, *Tytthaspis sedecimpunctata*.**Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*.**Scraptiidae**—*Anaspis maculata*, *Anaspis regimbarti*.**Chrysomelidae**—*Cassida rubiginosa*, *Chaetocnema concinna*, *Chrysolina staphylaea*, *Oulema melanopa*, *Phaedon nuditulus*, *Phyllotreta orchripes*, *Phyllotreta undulata*, *Psylliodes chrysocephala*.**Atelabidae**—*Rhynchites germanicus*.**Apionidae**—*Apion aeneum*, *Apion dichroum*, *Apion hydrolopathi*, *Apion malvae* ★, *Apion radiolus*, *Apion rufirostre* ★, *Apion virens*.**Curculionidae**—*Ceutorhynchus assimilis*, *Ceutorhynchus contractus*, *Ceutorhynchus pollinarius*, *Ceutorhynchus quadridens*, *Cidnorrhinus quadrimaculatus*, *Phyllobius pomaceus*, *Phyllobius pyri*.

## Brogborough (SP969398)

Number of species recorded: 8

**Nitidulidae**—*Meligethes aeneus*.**Coccinellidae**—*Adalia bipunctata*.**Scraptiidae**—*Anaspis humeralis*.**Chrysomelidae**—*Cassida rubiginosa*, *Psylliodes affinis*.**Apionidae**—*Apion frumentarium*, *Apion hydrolopathi*.**Curculionidae**—*Anthonomus pedicularis*.

## Caddington (TL057208)

Number of species recorded: 128

**Carabidae**—*Amara aenea*, *Amara familiaris*, *Amara plebeja*, *Badister bipustulatus*, *Bembidion lunulatum*, *Bembidion quadrimaculatum*, *Calathus piceus*, *Leistus ferrugineus*, *Leistus fulvibarbis*, *Leistus spinibarbis*, *Loricera pilicornis*, *Nebria brevicollis*, *Notiophilus biguttatus*, *Patrobus atronifus*, *Pterostichus melanarius*, *Pterostichus strenuus*, *Trechus quadristriatus*.**Hydrophilidae**—*Megasternum obscurum*.**Leiodidae**—*Agathidium nigrinum*, *Agathidium varians*, *Anisotoma humeralis*, *Catops fuliginosus*, *Catops longulus* (Na), *Catops nigricans*, *Catops tristis*, *Choleva agilis*, *Choleva angustata*, *Choleva jeanneli*, *Coletenis innumida* (Nb), *Nargus velox*, *Nargus wilkinki*, *Ptomaphagus subvillosus*.**Staphylinidae**—*Aloconota gregaria*, *Amischa analis*, *Amischa cavifrons* ★, *Anotylus rugosus*, *Anotylus sculptratus*, *Anotylus tetracariniatus*, *Anthobium atrocephalum*, *Anthobium unicolor*, *Atheta aquatica*, *Atheta fungi*, *Atheta triangulum* ★, *Callicerus obscurus*, *Chiloporata longitarsis*, *Cypha longicornis*, *Lathrobium geminum*, *Lesteva longoelytrata*, *Metopsia retusa*, *Micropeplus staphylinoides*, *Oligota punctulata*, *Olophrum piceum*, *Omalius caesum*, *Omalius italicum*, *Omalius rivulare*, *Oxyopoda annularis* ★, *Oxyopoda haemorrhoea* ★, *Oxyopoda umbrata*, *Oxyopoda spectabilis*, *Philonthus decorus*, *Plataraea brunnea*, *Proteinus brachypterus*, *Proteinus ovalis*, *Quedius fuliginosus*, *Quedius funatus* ★, *Quedius scintillans*, *Sepedophilus immaculatus* ★, *Sepedophilus marshami*, *Staphylinus olens*, *Stenus bimaculatus*, *Stenus brunneipes*, *Stenus clavicornis*, *Stenus impressus*, *Syntomium aeneum*, *Tachinus signatus*, *Tachyporus chrysonelinius*, *Tachyporus hypnorum*, *Tachyporus nitidulus*, *Tachyporus obtusus*, *Tachyporus solutus*, *Xantholinus linearis*.**Elateridae**—*Agriotes acuminatus*, *Agriotes obscurus*, *Agriotes pallidulus*, *Athous haemorrhoidalis*.**Throscidae**—*Trixaqus dermestoides*.**Cantharidae**—*Cantharis decipiens*, *Cantharis lateralis*, *Cantharis nigricans*, *Malthodes dispar* ★, *Malthodes minimus*.**Melyridae**—*Malachius bipustulatus*.**Nitidulidae**—*Meligethes aeneus*.**Cryptophagidae**—*Aromaria atricapilla*, *Cryptophagus distinguendus*, *Cryptophagus setulosus*, *Henoticus serratus* ★ (Nb).**Phalacridae**—*Stilbus testaceus*.**Coccinellidae**—*Adalia decempunctata*, *Propylea quattuordecimpunctata*, *Thea vigintiduopunctata*.**Lathridiidae**—*Aridius bifasciatus*, *Aridius nodifer*, *Ericinus histrio*, *Stephostethus lardarius*.**Tenebrionidae**—*Scaphidema metallicum* (Nb).**Salpingidae**—*Vincenzellus ruficollis*.**Scraptiidae**—*Anaspis maculata*.**Chrysomelidae**—*Cassida rubiginosa*, *Chaetocnema concinna*, *Chrysolina polita*, *Longitarsus maculiceps*, *Oulema melanopa*, *Phyllotreta nigripes*, *Psylliodes affinis*, *Psylliodes chrysocephala*, *Sphaeroderma testaceum*.**Apionidae**—*Apion virens*.**Curculionidae**—*Acalles pinoides* (Nb), *Barypeithes pellucidus*, *Ceutorhynchus assimilis*, *Ceutorhynchus pollinarius*, *Cidnorrhinus quadrimaculatus*, *Euphryum confuse*, *Phyllobius pomaceus*, *Phyllobius roboratus*, *Ramphus pilicarius*, *Sitona lineatus*.

**Priory Country Park, Bedford (TL078493)**

Number of species recorded: 31

Priory Country Park was visited to participate in the BNHS day held there on the 3rd June. Beetles were collected by sweep netting foliage at the edges of the pond and river, also by water netting.

**Halipilidae**—*Halipilus immaculatus*.

**Dytiscidae**—*Hyphydrus ovatus*, *Laccophilus hyalinus*.

**Hydrophilidae**—*Anacaena bipustulata*, *Helophorus brevipalpis*.

**Cantharidae**—*Cantharis lateralis*, *Cantharis pallida* (Nb), *Cantharis rufa*, *Malthodes minimus*.

**Melyridae**—*Malachius bipustulatus*, *Malachius viridis*.

**Nitidulidae**—*Brachypterus glaber*, *Meligethes aeneus*.

**Coccinellidae**—*Coccidula rufa*, *Propylea quattuordecimpunctata*, *Rhizophobus litura*.

**Oedemeridae**—*Oedemera lurida*.

**Bruchidae**—*Bruchus loti* ★.

**Chrysomelidae**—*Cassida rubiginosa*, *Chalcoides fulvicornis*, *Chalcoides plutus*, *Chrysolina polita*, *Donacia impressa* (Na), *Galerucella sagittariae*, *Gastrophysa viridula*.

**Apionidae**—*Apion carduorum*, *Apion pisi*.

**Curculionidae**—*Ceutorhynchus floralis*, *Phyllobius pomaceus*, *Phyllobius roboretanus*, *Sitona lineatus*.

**10 Buckwood Avenue, Dunstable (TL035224)**

Number of species recorded: 78

In the continuing study of this garden, many species have been found which were not seen in 1989. The sampling methods include pitfall trapping, Tullgren Funnel extractions of compost, water traps and beating Rowan blossom.

**Carabidae**—*Bembidion guttula*, *Bembidion lunulatum*, *Bradycellus verbasci*, *Demetrias atricapillus*, *Harpalus rubripes*, *Leistus rufomarginatus*, *Pterostichus melanarius*.

**Hydrophilidae**—*Ceryon melanocephalus*, *Helophorus grandis*.

**Histeridae**—*Hister impressus*.

**Hydraenidae**—*Ochthebius dilatatus*, *Ochthebius minimus*.

**Leiodidae**—*Catops fuliginosus*.

**Staphylinidae**—*Aleochara bilineata*, *Aleochara bipustulata*, *Aloconota gregaria*, *Amischa analis*, *Atheta fungicola*, *Atheta trinotata*, *Autalia impressa*, *Carpelimus bilineatus*, *Carpelimus pusillus* ★, *Chaetida longicornis*, *Cypha longicornis*, *Dinaraea angustula* ★, *Liogluta pagana* ★, *Mycetoporus nigricollis* (Nb), *Omalius italicum*, *Oxyopoda induta* ★, *Philonthus fimetarius*, *Platystethus nitens*, *Proteinus brachypterus*, *Quedius fuliginosus*, *Quedius humeralis* (Na), *Quedius nemoralis*, *Scopaeus sulcicollis* ★, *Staphylinus globulifer*, *Stenus juno*, *Tinotus morion*.

**Lucanidae**—*Sinodendron cylindricum*.

**Geotrupidae**—*Geotrupes stercorarius*.

**Scarabaeidae**—*Amphimallon solstitialis*.

**Byrrhidae**—*Simplocaria semistriata*.

**Elateridae**—*Athous haemorrhoidalis*.

**Dermestidae**—*Anthrenus fuscus* ★, *Anthrenus verbasci*.

**Nitidulidae**—*Brachypterus glaber*, *Epuraca aestiva*, *Meligethes nigrescens*, *Omosita discoidea*.

**Cryptophagidae**—*Atomaria linearis*, *Cryptophagus distinguendus*.

**Byturidae**—*Byturus tomentosus*.

**Corylophidae**—*Sericoderus lateralis* ★.

**Phalacridae**—*Stilbus testaceus*.

**Coccinellidae**—*Adalia decempunctata*, *Calvia quattuordecimguttata*, *Chilocorus renipustulatus*, *Exochomus quadripustulatus*.

**Lathridiidae**—*Enicmus histrio*, *Stephostethus lardarius*.

**Tenebrionidae**—*Lagria hirta*.

**Scraptiidae**—*Anaspis humeralis*, *Anaspis maculata*.

**Chrysomelidae**—*Cassida rubiginosa*, *Chaetocnema concinna*, *Galeruca tanacetii*, *Gastrophysa polygoni*, *Longitarsus exoletus* ★, *Oulema melanopa*.

**Apionidae**—*Apion dichroum*, *Apion ervi*.

**Atelabidae**—*Rhynchites aequatus*.

**Curculionidae**—*Anthonomus rubi*, *Ceutorhynchus asperifoliarum* ★, *Phyllobius roboretanus*.

**Cockayne Hatley (TL253495)**

Number of species recorded: 35

A garden at Cockayne Hatley was examined on the 29th April. The large pond and surrounding vegetation were sampled with nets, and some compost taken for extraction by Tullgren Funnel.

**Carabidae**—*Bembidion guttula*, *Pterostichus strenuus*.

**Halipilidae**—*Halipilus lineatocollis*.

**Noteridae**—*Noterus clavicornis*.

**Dytiscidae**—*Hygrotus inaequalis*, *Hygrotus versicolor*, *Hyphydrus ovatus*.

**Hydrophilidae**—*Anacaena limbata* ★, *Ceryon terminatus*, *Helochaers lividus*, *Helophorus brevipalpis*, *Helophorus grandis*, *Hydrobius fuscipes*, *Megasternum obscurum*.

**Scydmaenidae**—*Scydmaenus tarsatus*.

**Staphylinidae**—*Anotylus sculpturatus*, *Atheta trinotata*, *Gyrohypnum punctulatus*, *Leptacinus pusillus*, *Micropeplus fulvus*, *Mycetoporus splendendus*, *Omalius excavatum*, *Philonthus varians*, *Quedius cinctus*, *Rugilus orbiculatus*, *Stenus cindeloides*, *Tachyporus hypnorum*, *Xantholinus linearis*.



**Pselaphidae**—*Euplectes sanguineus*.  
**Rhizophagidae**—*Monotoma bicolor*.  
**Lathridiidae**—*Aridius bifasciatus*.  
**Chrysomelidae**—*Batophila aerata*, *Chalcoides plutus*.  
**Curculionidae**—*Ceutorhynchus assimilis*, *Sitona lineatus*.

**Swasedale Road, Luton (TL069249)**

Number of species recorded: 18

Another garden, from which compost was sampled on 22nd June.

**Hydrophilidae**—*Cercyon terminatus*, *Cercyon unipunctatus*, *Megasternum obscurum*.  
**Histeridae**—*Carcinops pumilio* ★, *Hister merdarius*.  
**Staphylinidae**—*Anotylus complanatus*, *Atheta nigra*, *Gyrohypnus punctulatus*, *Leptacinus pusillus*, *Lithocharis ochracea*, *Oligota punctulata*, *Oxytelus sculptus*, *Philonthus cognatus*.  
**Scarabaeidae**—*Oxyomus sylvestris*.  
**Rhizophagidae**—*Monotoma bicolor*, *Monotoma picipes*.  
**Salpingidae**—*Rhinosimus planirostris*.  
**Anthicidae**—*Anthicus floralis*.

**ADDITIONAL SITES**

The lists for the following five sites have been made from material supplied to us from pitfall traps run by Mr T. Thomas.

**Amphill Firs (TL028378)**

Number of species recorded: 17

**Carabidae**—*Calathus fuscipes*, *Carabus violaceus*, *Cicindela campestris*, *Leistus ferrugineus*, *Leistus spinibarbis*, *Nebria brevicollis*, *Pterostichus cupreus*.  
**Silphidae**—*Nicrophorus humator*, *Nicrophorus investigator*, *Nicrophorus vespillo*.  
**Staphylinidae**—*Tachyporus hypnorum*, *Xantholinus longiventris*.  
**Geotrupidae**—*Typhaeus typhoeus*.  
**Coccinellidae**—*Coccinella septempunctata*.  
**Chrysomelidae**—*Lochmaea suturalis*.  
**Apionidae**—*Apion ulicis*.  
**Curculionidae**—*Strophosomus sus*.

**Cowslip Meadow (TL082247)**

Number of species recorded: 13

**Cryptophagidae**—*Atomaria atricapilla*.  
**Coccinellidae**—*Coccinella septempunctata*, *Propylea quatuordecimpunctata*, *Thea vigintiduopunctata*, *Tytthaspis sedecimpunctata*.  
**Lathridiidae**—*Corticicara gibbosa*.  
**Chrysomelidae**—*Chaetocnema hortensis*, *Crepidodera transversa*, *Psyllodes chrysocephala*.  
**Apionidae**—*Apion apricans*, *Apion carduorum*, *Apion frumentarium*.  
**Curculionidae**—*Sitona lineatus*.

**Flitwick Moor (TL046353)**

Number of species recorded: 13

**Carabidae**—*Agonum fuliginosum*, *Cychrus caraboides*, *Pterostichus madidus*, *Pterostichus nigrita*.  
**Hydrophilidae**—*Anacaena globulus*.  
**Silphidae**—*Nicrophorus vespillo*, *Nicrophorus vespilloides*, *Silpha atrata*.  
**Staphylinidae**—*Anotylus rugosus*.  
**Coccinellidae**—*Coccinella septempunctata*.  
**Bruchidae**—*Bruchus rufimanus*.  
**Chrysomelidae**—*Oulema melanopa*.  
**Curculionidae**—*Thryogenes festucae*.

**Old Warden Tunnel Nature Reserve (TL114446)**

Number of species recorded: 37

**Carabidae**—*Amara aulica*, *Amara similata*, *Calathus fuscipes*, *Carabus violaceus*, *Leistus ferrugineus*, *Leistus rufomarginatus*, *Leistus spinibarbis*, *Loricera pilicornis*, *Nebria brevicollis*, *Pterostichus cupreus*, *Pterostichus macer* (Nb), *Pterostichus madidus*, *Pterostichus melanarius*, *Stomis punicatus*.  
**Hydrophilidae**—*Sphaeridium lunatum*.  
**Leiodidae**—*Catops nigricans*, *Nargus velox*.  
**Silphidae**—*Nicrophorus humator*, *Nicrophorus investigator*, *Nicrophorus vespillo*, *Nicrophorus vespilloides*, *Thanatophilus sinuatus*.  
**Staphylinidae**—*Drusilla canaliculata*, *Micropeplus staphylinoides*, *Platydracus stercorarius*, *Quedius fuliginosus*, *Staphylinus globulifer*, *Staphylinus olens*, *Tachyporus hypnorum*.  
**Scarabaeidae**—*Aphodius sphaelatus*.  
**Byrrhidae**—*Byrrhus pilula*.

**Elateridae**—*Agriotes lineatus*.  
**Cantharidae**—*Cantharis lateralis*.  
**Chrysomelidae**—*Derocrepis rufipes*, *Sphaeroderma testaceum*.  
**Curculionidae**—*Barynotus obscurus*, *Sciaphilus asperatus*, *Sitona lineatus*.

**Sewell Cutting (SP995227—TL004227)**

Number of species recorded: 21

**Carabidae**—*Amara aulica*, *Calathus fuscipes*, *Carabus violaceus*, *Leistus spinibarbis*, *Licinus depressus* ★ (Nb), *Pterostichus madidus*.  
**Leiodidae**—*Catops nigricans*.  
**Silphidae**—*Nicrophorus humator*, *Nicrophorus investigator*, *Nicrophorus vespillo*.  
**Staphylinidae**—*Philonthus cognatus*, *Staphylinus aeneocephalus*, *Staphylinus globulifer*, *Staphylinus olens*, *Tachyporus hypnorum*.  
**Scarabaeidae**—*Aphodius contaminatus*.  
**Coccinellidae**—*Coccinella septempunctata*.  
**Chrysomelidae**—*Onilema melanopa*.  
**Curculionidae**—*Anthonomus rubi*, *Sitona hispidulus*, *Sitona lineatus*.

**ADDITIONAL RECORDS.**

The following Coccinellid (Ladybird) records for 1990 were received from Rosemary Brind:—  
**Near Higham Gobion (TL105321)—March.** *Coccinella septempunctata*.  
**Near Tingley Wood (TL134302)—March.** *Adalia decempunctata*, *Chilocorus renipustulatus*, *Coccinella septempunctata*, *Propylea quattuordecimpunctata*.  
**Yelnow Lane (SP960597)—18th April.** *Chilocorus renipustulatus*.  
**Grange Mill (SP913273)—25th April.** *Chilocorus renipustulatus*, *Coccinella septempunctata*, *Propylea quattuordecimpunctata*.  
**Priory Country Park (TL0749)—28th May.** *Adalia bipunctata*, *Coccinella septempunctata*, *Tyrrhaspis sedecimpunctata*.  
**Harrod Odell Country Park (SP962568)—28th May.** *Anisosticta novemdecimpunctata*, *Coccidula scutellata*, *Tyrrhaspis sedecimpunctata*.  
**Stevington Country Walk (TL0052)—28th May.** *Adalia decempunctata*, *Chilocorus renipustulatus*.  
**Flitton Moor (TL056359)—30th May.** *Adalia bipunctata*, *Adalia decempunctata*, *Coccidula rufa*, *Coccinella septempunctata*.  
**Centenary Wood (TL063350)—12th June.** *Coccinella septempunctata*.  
**Wilstead Wood (TL0742)—28th June.** *Adalia decempunctata*, *Coccinella septempunctata*, *Exochomus quadripustulatus*.  
**Oakley Crossroads (TL021543)—1st July.** *Coccinella septempunctata*.  
**Marsh—North of Milton Earnest (TL017574)—1st July.** *Anisosticta novemdecimpunctata*, *Propylea quattuordecimpunctata*.  
**West Wood (SP9962)—1st July.** *Coccinella septempunctata*.  
**Flitwick Wood (TL023349)—15th July.** *Coccinella septempunctata*.  
**Meadows by Kings Wood, Houghton Conquest (TL0440)—9th August.** *Calvia quattuordecimpunctata*, *Thea vigintiduopunctata*.  
**Rowney Warren (TL1240)—12th August.** *Adalia bipunctata*, *Adalia decempunctata*, *Aphidecta oblitterata*, *Calvia quattuordecimpunctata*, *Coccinella septempunctata*, *Coccinella undecimpunctata*, *Exochomus quadripustulatus*, *Harmonia quadripunctata*, *Myrrha octodecimpunctata*, *Propylea quattuordecimpunctata*, *Subcoccinella vigintiattuorpunctata*.  
**Wavendon Heath (SP936341)—26th August.** *Anatis ocellata*, *Coccinella septempunctata*, *Exochomus quadripustulatus*, *Myrrha octodecimpunctata*.  
**Swineshead Green Lane (TL0666)—29th August.** *Adalia bipunctata*, *Adalia decempunctata*, *Chilocorus renipustulatus*, *Coccinella septempunctata*, *Exochomus quadripustulatus*.  
**Flitwick Moor (TL0435)—6th September.** *Coccinella septempunctata*, *Anisosticta novemdecimpunctata*.  
**Bromham Mill (TL011508)—13th September.** *Coccinella septempunctata*, *Propylea quattuordecimpunctata*, *Thea vigintiduopunctata*, *Tyrrhaspis sedecimpunctata*.  
**Bromham Park (TL009508)—13th September.** *Anisosticta novemdecimpunctata*.  
**Maulden Church Meadows (TL059382)—16th September.** *Tyrrhaspis sedecimpunctata*.  
**Astwick (TL213384)—28th October.** *Coccinella septempunctata*, *Thea vigintiduopunctata*.  
**Dunton Green Lane (TL2-4)—28th October.** *Coccinella septempunctata*.  
**Wymington (SP942646)—4th November.** *Coccinella septempunctata*.  
**Wymington (SP942645)—4th November.** *Anisosticta novemdecimpunctata*, *Thea vigintiduopunctata*.  
**The Lodge, Sandy (TL187478)—2nd March.** Joan Childs sent a specimen of *Typhaeus typhoeus*.

## DISCUSSION

Intensive studies of the sites described have yielded a wide range of beetle fauna for 1990, of which 67 species are new to the county list. The results from the roadside verge sites are of particular significance and demonstrate how these narrow strips of land can support a large fauna if sympathetically managed. The wide range of habitats and flora that the verges offer increases the potential species diversity that can be expected. The roadside verge at Billington illustrates this very well. The site was sampled by sweep netting on the 31st March and the 10th June, and two or three small specimens of Common Mallow *Malva sylvestris* were found growing close to a stream. The plants yielded all four British species of Apion weevils that feed on this plant (*Apion aeneum*, *A. malvae*, *A. radiolus* and *A. rufirostre*), of which two were new to the Bedfordshire list. Similarly, the ground dwelling beetle fauna of the verges showed great variety, within and between the sites.

The first years' study at Sandy Quarry produced several species that are typical sand inhabitants. Amongst these, *Amara fulva* is a species that is 'Almost confined to dry sand . . . buried below surface during daytime. It avoid continuous vegetation.' (Lindroth 1974). Also *Amara tibialis* and *Calathus ambiguus* are usually found on dry sandy soil with little vegetation. *Notoxus monoceros*, a small beetle with a thoracic horn that projects over its head, was frequently found; it commonly occurs on sand dunes. The rare beetle *Staphylinus ophthalmicus* was a noteworthy discovery. Four individuals were found and it is assumed that an established colony is present.

Dropshort Marsh is a small site of a little less than six acres, but it produced a great variety of beetles. In many instances the species recorded reflect the obviously different habitat types that are present. The broadest division can be made between the fauna which is typical of wet or dry situations, and the three species of *Agonum* found show a gradation of preference. *Agonum moestum* is found at the margins of fresh water, *A. fuliginosum* occurs in moist shady places and *A. muelleri* inhabits moderately dry soil. The rich variety of flora which grows at Dropshort also provides many different foodplants for beetles. Figwort (*Scrophularia* sp.) was found to support three species of the weevil *Cionus* (*C. alauda*, *C. hortulanus* and *C. scrophulariae*). Large numbers of the leaf beetle *Chrysolina polita* and the weevil *Ceutorhynchus melanostictus* were present in the clumps of Water Mint *Mentha aquatica* which grow in the wetter areas. It was also interesting to find the weevil *Grypus equiseti* which feeds on Water Horsetail *Equisetum fluviatile*.

The number of species that were again recorded from 10 Buckwood Avenue was surprising, especially as the garden would not be recognised as a favourable habitat for most of them. However, many were taken as single specimens that were in flight, and simply passing across the garden. Over a two week period, a rowan and a cultivated cherry in full bloom were beaten daily. Seventeen species of beetle were found and it is assumed that they were feeding on the rich pollen supplies held by the flowers. The beetle *Anthrenus*, more commonly known as the carpet beetle, was present in huge numbers. Closer inspection showed the majority to be *A. verbasci* which has antennae with eleven segments. However, about 3% were *A. fuscus* whose five segmented antennae have an extended terminal segment which is three times longer than the other four together. Once the flowers had senesced, the beetle population virtually disappeared from the trees.

We have recently become aware of literature which splits the staphylinid beetle *Xantholinus tricolor* into two species. As the true *X. tricolor* has mostly been found in 'wooded mountainous regions' (Last 1950), it is likely that all past Bedfordshire records are in fact *X. jarrigei*.

## ACKNOWLEDGEMENTS

We are grateful to the following people who have helped us during the year:— Ian Woiwod, Alan Wheeler and John Comont (Beds. County Council), Ron Foster (Redland Aggregates), Marie Moreau (Wildlife Trust), Janette Plumridge (N.C.C.), Carol Aldridge, Charles Baker, Bill Thwaites (Countryside Ranger), Tom Thomas, Rosemary Brind and Joan Childs.

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W. POWELL, J.E. AHSBY

## MOSSES AND LIVERWORTS (Bryophyta)

### Report of the Recorder

Tetrad recording of Bryophytes has continued but the extended periods of dry weather over the last three years have not made fieldwork at all easy. No new additions have been made to the county list in the past year.

Two factors might bring about an increase in records of wood inhabiting species in future years. The storms of 1987 and 1990 have resulted in a considerable increase in the amount of fallen timber in the county. If this is allowed to lie it should provide additional habitat for those species which grow on rotting wood. At the same time levels of atmospheric pollution, in particular of SO<sub>2</sub>, are falling. This should favour an increase in epiphytic species of mosses and liverworts (i.e. those growing on living trees) which are especially susceptible to such pollution. Already in parts of south east England some of these species, and other sensitive types, are known to be recolonising areas from which they have been absent for many years.

### ACKNOWLEDGEMENTS

My thanks to Carol Aldridge and to George and Peggy Hooper who have sent me specimens in the past twelve months.

ALAN R. OUTEN

## LICHENS

### Report of the Recorder

The centre of Luton might not seem to be an ideal area for a field meeting but a recent survey by a few students showed that a variety of lichens are growing there. There are plenty of substrates available, trees, concrete posts, wooden seats, asphalt, paving and walls.

In the Library Square the trees and wooden seats are mainly colonised by the alga, *Desmococcus viridis* but *Lecanora conizaeoides* and *L. dispersa* were found on some of the older trees and the sides of the wooden seats.

The churchyard of St Mary's with its ancient tombstones of limestone and acidic sandstone (some unfortunately disappearing beneath trees and shrubs) presented some common urban species including *Caloplaca citrina*, *C. heppiana*, *Candelariella vitellina*, *Lecanora campestris*, *L. dispersa*, *L. expallens*, *Physcia caesia*, *Trapelia coarctata*, *Verrucaria muralis* and *V. viridula*. Large thalli of *Lecanora muralis* were found on the paving path and the flat top of a horizontal tomb and two headstones had their inscriptions highlighted by the lichen *Lecidea lucida* growing in the damp carving lines. The trees are poorly covered due to shade and pollution with only small patches of *Lecanora conizaeoides* and *Lepraria incana* thriving. Where the guttering pipe had broken, at the base of the church, a large colony of the dark greenish lichen *Collema tenax* was found growing in the wet, shaded conditions, amongst the mosses.

The college with its concrete window ledges and flat roof provides surfaces for small thalli of a range of common calcicoles, *Lecanora dispersa*, *L. muralis*, *Lecidella stigmatea*, *Physcia caesia*, *Phaeophyscia orbicularis*, *Rinodina genarii*, *Verrucaria muralis*, *V. nigrescens*, *Xanthoria parietina* and a number of *Caloplaca* spp. It was expected that the birch trees in the front of the college with their acidic, smooth and peeling bark would be devoid of lichens but thalli of *Buellia punctata* were found growing at the base of two of the trees.

The walls between the college and churchyard, although in dense shade in places and covered with a coating of algae, did provide a few specimens of *Cladonia chlorophaea* and *Lepraria incana*.

The lichens in the pub garden and car park close to the college have been extensively studied by generations of students yet they still are only able to find three species, *Lecanora muralis* on the asphalt and *Cladonia coniocraea* and *Lecidea fuscoatra* on the coping stones of the surrounding brick wall.

Lichens have also been "introduced" into Luton for ornamental and display purposes. *Cladonia arbuscula* and *C. rangiferina* were found on sale in a toy shop in the Arndale Centre for use as model trees in railway displays whilst *Bryoria fuscescens*, *Parmelia caperata* and *Usnea subfloridana* were all seen as part of an autumn fashion window display in a store window!

The list of lichens for Luton centre, excluding the alien species, totals 28.

FRANCES B.M. DAVIES

## THE FUNGUS FORAY, 1990

The fungus foray, held on October 28th, was led by Dr D.A. Reid and the venue this year was Wrest Park, previously visited in 1964 and 1967. About 30 members attended and searched the grounds diligently for fungi, which were rather scanty due to the recent very dry conditions. However, parkland and shrubberies are not conducive to the larger fungi and even the lawns failed to produce many of the expected grassland species. Nevertheless 114 species were found, of which 19 were new to the county, although all but four of these were small or inconspicuous Ascomycetes, Phycmycetes or Fungi Imperfecti.

Of the larger fungi not previously reported from the county, *Pluteus pearsonii* is recognised by having a dark blackish brown felty cap, the surface of which splits radially to expose the contrasting white flesh. The specimens collected were perhaps slightly more brown than usual.

*Lepiota echinacea* is a small species with cap about 2.5cm diameter covered with conspicuous dark brown conical warts on a paler background. The stem is covered, up to the ring, with similar warts. These are formed of brown globose elements, and the small, elliptical, dextrinoid spores measure 5.0-6.0 x 2.7-3.0  $\mu$ m. *Geopetalum carbonarium* is found on old bonfire sites with a covering of moss. This rather thin leathery fungus is entirely grey and funnel-shaped with shallow, distant gills. Microscopically it is characterized by having prominent thick-walled lanceolate cystidia over the gill surface.

Confirmation of the occurrence of *Pholiota aurivella* after almost a century is interesting for in the British Isles, generally, it is regarded as a common species. It is a large striking yellow species with a glutinous or sticky cap, often more rust coloured at the centre, and bears darker chestnut coloured scales. It occurs in tufts on standing or fallen trunks or on fallen branches.

### SPECIES LIST

*Agaricus arvensis* s.str.; *A. campestris*; *A. silvaticus*; *A. xanthoderma*; *Baeospora myosura*; *Bolbitius vitellinus*; *Clitocybe rivulosa*; *C. vibecina*; *Coprinus atramentarius*; *C. comatus*; *C. disseminatus*; *C. micaceus*; *C. plicatilis*; *Crepidotus mollis*; *Galerina graminea*; \**Geopetalum carbonarium*; *Hebeloma saccharioides*; *Hypholoma fasciculare*; *Hygrophoropsis aurantiaca*; *Inocybe geophylla*; *I. geophylla* var. *lilacina*; *I. maculata*; *Laccaria laccata*; *Lacrymaria velutina*; *Lactarius deterrimus*; *Lepiota badhamila*; *L. cristata*; \**L. echinacea*; *L. leucothites*; *L. rhacodes*; *Marasmius epiphyllus*; *Mycena citrinomarginata*; *M. galericulata*; *M. galopus*; *M. galopus* var. *candida*; *M. inclinata*; *M. olivaceomarginata*; *M. speirea*; *M. tenerrima*; *M. vitilis*; *Oudemansiella radicata*; *Panaeolina foenicisii*; *Pholiota aurivella*; *P. carbonaria*; *P. gummosa*; *Pluteus cervinus*; \**P. pearsonii*; *Psathyrella gracilis*; *Psilocybe inquilina*; *Resupinatus applicatus*; *Simocybe sumptuosa*; *Stropharia aeruginosa*; *S. coronilla*; *S. inuncta*; *Tephroclype impexa*; *Tubaria furfuracea*.

*Coriolus versicolor*; *Fistulina hepatica*; *Heteroporus biennis*; *Inonotus dryadeus*; *Laetiporus sulphureus*; *Mycococcia uda*; \**Phanerochaete tuberculata*; *Polyporus squamosus*; *Stereum gausapatum*; *S. hirsutum*; *Typhula erythropus*.

*Calocera cornea*; *C. viscosa*; *Dacrymyces stillatus*.

*Myxarium nucleatum*

*Auricularia auricula-judae*; *A. mesenterica*.

*Puccinia glechomatis*

*Crucibulum laeve*; *Lycoperdon lividum* [ *L. spadiceum*]; *L. pyriforme*; *Scleroderma verrucosum*;

*Vascellum pratense*.

*Anthracobia melaloma*; *Ascocoryne sarcoides*; *Chlorosplenium aeruginascens*; \**Hyalopeziza ciliata*;

*Hymenoscyphus caudatus*; *H. fructigenus*; *Iodophanus carneus*; *Melastiza chateri*; *Phialea cyathoidea*;

\**Saccobolus depauperatus*; \**Trochilia ilicina*; \**T. laurocerasus*; \**Unguicularia millepunctata*.

*Creopus gelatinosus*; *Daldinia concentrica*; *Diatrype disciformis*; *D. stigma*; *Hypoxylon fragiforme*;

\**Melanospora cf. brevirostra*; \**Microthyrium microsporium*; *Nectria cinnabarina*; \**Pseudonectria rousseliana*;

\**Schizothecium (Podospora) tetrasporium*; *Xylaria hypoxylon*.

*Fusidium aeruginosum*; *F. griseum*; \**Periconia minutissima*; *Phomopsis strictica*; *Ramularia calcea*;

\**Stilbum erythrocephalum*; \**Volutella ciliata*.

*Chaetocladium brefeldii*; \**Kickxella alabastrina*; \**Mucor flavus*; \**Piptocephalis repens*.

\* New county record

## FUNGUS FORAY TO MAULDEN WOOD, 1990

Because Wrest Park had been thoroughly combed for fungi by lunch time, a small party of members drove to nearby Maulden Wood in the afternoon to continue the search. Here 74 species were collected, of which three were new to the county, although two of these were mildews.

The additional agaric *Cortinarius malachus* has a clay buff cap with tawny-ochre disc and a whitish, silky fibrillose margin. The gills are blue-violeaceous at first but fade to tawny-umber with age. The stem is clavate to almost bulbous and pale blue-violeaceous especially at the apex, but fades to whitish or ochraceous from the base up. There is a whitish veil which forms a well marked ring zone and also a cortina, while the flesh is deep blue-violeaceous especially in the stem apex. The elliptical or almond-shaped spores are more or less ornamented and measure (7.0)7.5-9.0(10.0) x 4.5-5.5 µm.

The occurrence of *Uncinula adunca* on *Salix caprea* was of interest as, apart from being new to Bedfordshire, I had never before met this species until I visited Vann Lake near Ockley in Surrey, during the previous weekend. In both instances the shrubs were very heavily infected and appeared conspicuously white from a distance. *U. bicornis* occurs on species of *Acer*.

### SPECIES LIST

*Armillaria mellea*; *Bolbitius vitellinus*; *Clitocybe geotropa*; *C. fragans*; *Collybia butyracea*; *C. dryophila*; *Conocybe filaris*; *Coprinus comatus*; *C. disseminatus*; *Cortinarius anomalus*; \**C. malachus*; *Crepidotus variabilis*; *Crinipellis stipitarius*; *Entoloma rhodopolium*; *Galerina hypnorum*; *Gymnopilus penetrans*; *Hygrophoropsis aurantiaca*; *Hypholoma fasciculare*; *Lacrymaria velutina*; *Marasmiellus ramealis*; *Marasmius androsaceus*; *M. epiphyllus*; *M. undatus*; *Mycena alcalina*; *M. epipterygia*; *M. galericulata*; *M. galopus*; *M. galopus* var. *candida*; *M. inclinata*; *M. leptcephala*; *M. oortiana*; *M. polygramma*; *M. pura*; *M. sanguinolenta*; *M. speirea*; *Pluteus cervinus*; *Psathyrella gracilis*; *Stropharia aeruginosa*; *Tubaria autochthona*; *T. furfuracea*; *Volvariella speciosa*.

*Auriscalpium vulgare*; *Coriolus versicolor*; *Daedaleopsis confragosa*; *Datronia mollis*; *Hirschioporus abietinus*; *Phlebia merismoides*; *Stereum gausapatum*; *S. hirsutum*; *Typhula erythropus*; *T. sclerotioides*.

*Calocera cornea*; *C. glossoides*; *Dacrymyces stillatus*.

*Auricularia mesenterica*.

*Coleosporium tussilaginis*; *Puccinia caricina* var. *ribesii-pendulae*; *P. lagenophorae*.

*Calvatia excipuliformis*; *Lycoperdon foetidum*; *L. pyriforme*.

*Rhytisma acerinum*; *Trochilia ilicina*.

*Diatrype disciformis*; *D. stigma*; *Erysiphe galeopsidis*; *E. heraclei*; *E. sordida*; *Microsphaera alphitoides*; *Nectria cinnabarina*; *Sphaerotheca pannosa*; \**Uncinula adunca*; \**U. bicornis*; *Xylaria hypoxylon*.

\* New county record

DEREK A. REID

## SITES Report of the Recorder

### SITES OF SPECIAL SCIENTIFIC INTEREST

Two new SSSI have been designated by the Nature Conservancy Council (NCC) during 1990. As with many SSSI the sites are private and there is no public access. Brief reasons for notification are given.

**Totternhoe Chalk Quarry** (1990) SP9822 area 136 ha ACCESS—Private  
Sited on the north-west slope of the Chiltern escarpment, the site supports species-rich unimproved chalk grassland.

**Nares Gladley Marsh** (1990) SP9822 area 13.6 ha ACCESS—Private  
The marsh is situated on alluvial deposits which overlay the Lower Greensand in the valley of the River Ouzel. A series of springs form a complex of wet flushes surrounded by marshy grassland which grades into unimproved acidic grassland on the drier slopes.

During the year the Bedfordshire Conservation Volunteers undertook various conservation tasks on SSSI.

**King's Wood, Heath Reach** SP9330 Coppice management. January, November 1990

**Potton Wood** TL2650 Coppice management. October 1990.

**Maulden Church Meadow** TL0538. Coppicing a stretch of overgrown hedgerow. March 1990.

**Maulden Heath** TL0638. Clearance of bracken which is invading the acid grassland. July 1990.

**Wavendon Heath Ponds** SP9333. Clearance of rhododendrons which are contributing to the drying out of the ponds and clearance of rushes that are clogging the shallow inlet streams. June, December 1990.

**Yeldon Meadows** TL0067. Management of the old hedgerows including trimming back and laying small sections to make the hedges stockproof. February, December 1990.

### HABITAT SURVEYS/REPORTS

The following lists some of the reports produced on Bedfordshire's wildlife habitats in recent years.

COMONT, J. 1990 Lowland heathland in Bedfordshire. Bedfordshire County Council.

FRANCIS, I.S; FINCH, M. et al. 1989 Biological Survey of Common Land No. 1 Bedfordshire. Nature Conservancy Council.

MOREAU, M. 1990 The Phase 1 Habitat Survey of Bedfordshire. Nature Conservancy Council.

ROBINSON, D.P. 1987 Bedfordshire Inventory of Ancient Woodland (Provisional). Nature Conservancy Council.

SODEN, D.; LEACH, S. 1988 Bedfordshire Chalk Grassland Survey 1987. Unpublished.

SODEN, D.W. 1989 Bedfordshire Neutral Grassland Survey 1988. Nature Conservancy Council.

### ROAD SCHEMES

1990 has seen the start and completion, botanical survey and new proposals of many bypass schemes and major road improvements in the county. Four schemes covering between 20-30 kilometres of new road are documented in this report. New roads clearly have a great potential for destruction and fragmentation of wildlife habitats and interruption of wildlife corridors but there is also potential for allowing new habitats to develop.

#### **Barton-le-Clay Bypass (A6)**

Construction of this new stretch of road on the London-Carlisle-Glasgow-Inverness Trunk Road (A6) was completed in 1990. The road sweeps westwards across a vale in the chalk hills, requiring the construction of high embankments. Chalk used for these embankments was taken from a borrow pit at the top of the Barton Cutting between the A6 and the Hexton Road. The new embankments were seeded during the winter of 1989/90 with various seed mixes but the origin of





*Wavendon Heath Ponds showing the problems with excessive rhododendron growth. August 1990.*

*(Photo: Rosemary Brind)*

the top soil is not known. Parts of the embankment (particularly on the western side) were not topsoiled and were left to either colonise naturally (adjacent to the SSSI) or were sown with a low maintenance grass mix or had wildflowers hyperseeded into the slopes. There has been extensive tree planting. The flora of the bypass was surveyed for the Department of Transport (DoT) by Mark Powell on 1st August 1990 and the monitoring will be continued. It is unfortunate that, as local chalk was used throughout the construction of the bypass, more areas were not left without topsoil or seeding, thus allowing a natural chalk flora to develop. No designated wildlife sites were lost in the construction of the road, although the route had to be realigned following a Public Enquiry to avoid destroying part of the Smithcombe, Sharpenhoe and Sundon Hills SSSI.

In the area of the borrow pit three Bronze Age ring ditches were excavated by Bedfordshire County Council Archaeology Unit, and at the foot of the scarp an area of Roman settlement was identified. The Bronze Age site produced a wide range of molluscs, at least 36 species. Analysis of the assemblage by environmental archaeologists suggests that during the late Neolithic/Early Bronze Age the vegetation consisted of a long-standing species rich calcareous grassland. Plants would have consisted of long stalked grasses like false oat-grass and hawthorn scrub and suggests that clearance had occurred much earlier. The area was not heavily grazed during the use of the ring-ditches and it is possible that the area was maintained so that denser tree vegetation did not colonise. A full report will be published in the Bedfordshire Archaeological Journal.

### **Bromham Bypass (A428)**

The scheme was completed in 1987, the road running to the south of Bromham with a new river crossing over the River Ouse and continuing north-westwards through a shallow cutting. Local topsoil was used for the verges and experimental wildflower sowing at various locations has been monitored by the DoT. The DoT and BCC will soon be reviewing the floristic development and will hopefully draw some conclusions on the merit of various sowing and management regimes. Part of Hanger Wood, now an SSSI, was lost during construction.

### **Leighton Linlade Southern Bypass**

Construction began in April 1990 and it is expected to take 2 years to complete the 14 kilometres of new road. The present section runs from the Wing Road (A418), south of the urban area to Billington Road (A4146) from where it runs along part of the disused Leighton Buzzard to Dunstable Railway and eastward to join the A5. Dredging of the River Ouzel downstream of Leighton Buzzard to Grange Mill, and pollarding of willows has been carried out as part of the project to accommodate surplus water from the road. Both the watercourse and the old railway line are designated Prime Sites of Nature Conservation Interest (PSNCI) and so some wildlife interest will have been lost. There are known badger setts in the area and these have been protected by badger fencing. The embankments required at the A5 end of the road are being constructed from chalk from the quarry at Totternhoe, which provides Bedfordshire County Council (BCC) with an opportunity to allow natural recolonisation of the verges that we hope will be taken.

### **Shefford-Clifton-Henlow Bypass (A507)**

Construction began on 27 February 1989 and the road was opened on 4th July 1990. The new road extends 17.1 kilometres from the A600 north-west of Shefford passing west and then south of the urban areas to join the existing A507 south-east of Henlow. The verges were all topsoiled (source unknown) and there was wildflower sowing at a few locations. Extensive tree planting has taken place. No designated wildlife sites were lost in the construction of the road.

New bridges constructed over the main river corridors, the River Flit and Campton Brook, were designed to include towpaths. Smaller watercourses are channelled under the road in pipes, thus obstructing the river banks and an experimental feature is that 9" diameter concrete pipes have been laid under the road, parallel to the watercourse, to allow land animals to continue along the river corridor without either getting wet or crossing the road. The pipes are really too small for foxes and badgers, but already appear to be used by rabbits.

New road schemes planned for pre-1994 and post-1994 are detailed in the County Structure Plan, Proposed Alterations Number 3. The earlier schemes include the Bedford Southern Bypass (A428), Bedford Western Bypass (A6/A428), Clapham Bypass (A6), Great Barford Bypass (A428), Dunstable Bypass (A5), M1 widening throughout Bedfordshire and the extension of the East West Route and the Shefford Bypass.

### **ACKNOWLEDGEMENTS**

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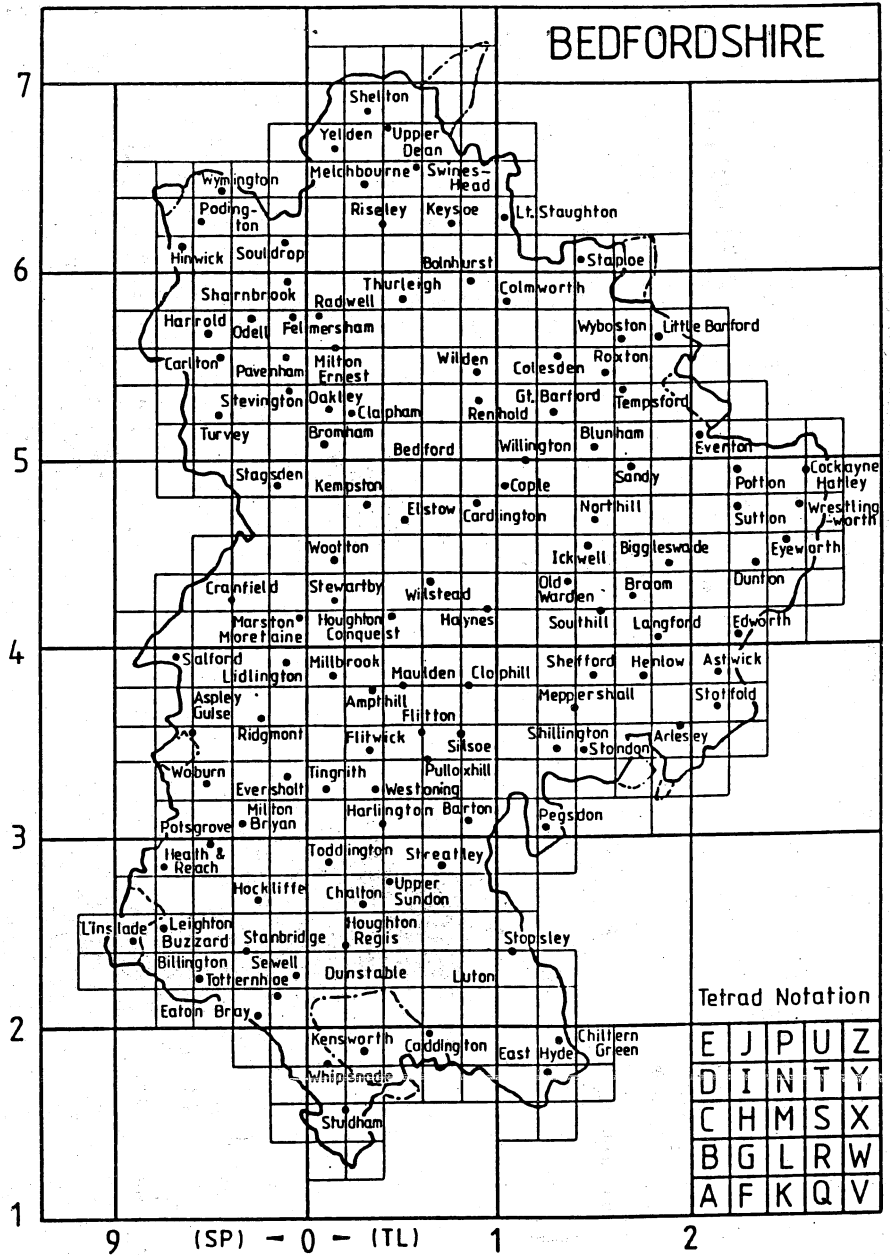
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## THE SOCIETY

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*