

The Bedfordshire Naturalist

**THE JOURNAL OF THE
BEDFORDSHIRE
NATURAL HISTORY SOCIETY
FOR THE YEAR**

1984

No. 39

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BEDFORDSHIRE NATURAL HISTORY SOCIETY 1985

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THE BEDFORDSHIRE NATURALIST

No. 39 (1984)

Edited by C.R. Boon

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REPORT OF THE COUNCIL

The Council has been pleased to welcome many new members to the Society during 1984. Several of these joined as a result of the Society's participation in events such as the RSPB Conservation Fair at Bedford and the Silsoe Conservation Fair, and the Council would like to thank those members who assisted in these events. The acquisition of new members from such sources seems to confirm that publicity should remain high on the Society's list of priorities. Inevitably we have lost a few of our existing members but the total membership figure of 447 is still very much in line with last year's total of 452 and gives us no reason for concern.

It was with deep regret that we learned of the death of Dr Vic Chambers who, as well as being the Society's Recorder for Hymenoptera, was one of the founder members of the Society. He will be sadly missed by those who knew him.

The Society continues to receive requests from various outside bodies for advice and information and endeavours to assist wherever possible. For example Beds County Council requested the assistance of the Society's Recorders in determining the wildlife interest of Houghton Regis Chalk Pit which Blue Circle Industries are planning to develop as an industrial area. This is being dealt with by the Scientific Committee. The Icknield District Scout Group requested the Society's advice on managing a small piece of woodland given to them to use for Scout activities and training. This again was dealt with by the Scientific Committee. Requests were also received from several 'A' Level students from various schools who were studying natural history related subjects.

The Council very much regrets to announce that Mr Don Green, who has been the Society's Chairman for the past six years, has decided not to stand for re-election. His many contributions to the Society during his term of office, his tactful and diplomatic approaches to what have not always been easy situations, and his genuine concern for others, have been highly valued by all those who have worked with him and the Council would like to express their deep gratitude to him. It is also with regret that the Council has to announce Dr Bernard Nau's wish to resign as Secretary of the Scientific Committee. Dr Nau has held this post ever since the formation of this committee ten years ago and the Council are indebted to him for his valuable contributions during that period.

It has been pleasing to see that the field meetings and indoor meetings of the past year have been so well attended and it is hoped that members will continue to support and enjoy these meetings. Finally, the Council would like to thank all those who have contributed to the successful running of the Society and hopes that all members will continue to benefit from their membership.

MARY SHERIDAN

	1981	1982	1983	1984
Ordinary Members	363	354	345	348
Associate Members	62	58	64	62
Student Members	32	28	24	17
Corporate Members	11	11	10	11
Life Members	5	5	5	5
Honorary Life Members	4	4	4	4
	477	460	452	447

Table: Membership of the Society over the last four years

VICTOR HORACE CHAMBERS (1911 - 1984)

The death of Dr Chambers on 11th August 1984, a few days before his 73rd birthday, saw the passing of one of the most outstanding Bedfordshire naturalists of all time.

Born in Luton, where his family was well established, he gained entry to Dunstable Grammar School at an age that was lower than normal. He soon developed an interest in natural history and while still only twelve years old began to compile a herbarium of Bedfordshire plants which he somewhat surprisingly called his Hortus Siccus. Two years later he made in book form an outline 'Flora of Bedfordshire' in which he entered records of plants he observed until 1931. This early interest was in time to prove valuable as the unique contribution he was later to make to natural science depended very much on the correct identification of plants. In the meantime he had done well at school, obtaining a Kitchener Scholarship in 1929 which enabled him to go to the Imperial College of Science where, after obtaining his first degree, he continued to take a Ph.D. in the comparatively new science of biochemistry. On leaving the university he obtained a post as research chemist with the Murphy Chemical Company at Wheathampstead where he stayed until his retirement in 1972, having by then held managerial appointments for some years. His work at Wheathampstead allowed him to continue to live at home and develop still further his interest in the natural history of his native county.

In 1931 he became interested in the Hymenoptera Aculeata (bees, wasps and ants) of the county, but what prompted him is not known. It may have been his membership of the Hitchin and District Regional Survey Association whose area of study included much of the south of Bedfordshire. Ray Palmer, an active member of the Society, had an interest in the aculeates and he and Chambers were soon collaborating. The choice of this early specialisation was an excellent one as many of the species burrowed underground to make their nests — the soils of the Lower Greensand in the middle of the county and to a lesser extent those of the Clay-with-Flints in the south being most suitable for this purpose. Chambers would often remind us that a distinctive natural feature of Bedfordshire is that it has almost the whole of the exposed Lower Greensand north of the Thames. He soon acquired a car which enabled him within a few years to account for most of the aculeate fauna of the county. In passing, it may be noted that he took a certain pride in the fact that, unlike the rest of us, he was unable to ride a bicycle.

I first met Chambers in 1936, by which time his attention was being drawn to finding out from which plant species some of the aculeates collected honey and how far they travelled from their nests to do so. It had involved in the first instance making a collection of the pollen of all the plant species likely to be visited and then the capturing of the insects on their return to their nest. It could be a tedious exercise, as the insects refused to leave their nests if a cloud covered the sun. Looking back after all these years what impressed me most of all was that the insects, having obligingly cleaned their bodies of all adhering pollen in the test tubes in which they had been placed, were then released precisely where they had been captured. It was a respect for nature I had not seen previously. In those early days of our friendship Chambers and I worked closely together on preliminary work of producing a full account of the flora of the county. The intervention of the war checked progress, but in the meantime Chambers was extending his entomological activity to a study of the Hymenoptera-Symphyla (sawflies).

The sawflies presented many more problems than the aculeates as in addition to greater difficulties of identification the full extent of the British fauna was not then known. Of some of the species described only one sex was known; of others the larval stage awaited description and the food plant of these species was not yet known. Above all there were species, not only new to Britain but new to science, awaiting description. It was to problems such as these — there being no-one more able to do so — that Chambers applied himself. It caused him to work closely for many years with R.B. Benson of the British Museum (Natural History), the national authority on sawflies. In 1947 Benson named a new species, *Rhogogaster chambersi*, in his honour, as he had drawn attention to its occurrence in three sites in Bedfordshire. It is almost needless to add that at that time only the adult insect was known, it being left to Chambers in the course of time to describe the larval stage and identify the food plant of the species. The many papers in scientific journals that came from his pen demanded not only accurate descriptions but clear line drawings, his skill in

producing these being more than adequate. He was, incidentally, to describe a new species himself in the course of time. There can be no great surprise that Benson tried hard to persuade Chambers to join him as a professional entomologist. He preferred to remain an amateur, devoting all his attention to Bedfordshire, his love of which was increasing.

In the midst of his work on sawflies the Bedfordshire Natural History Society was formed in 1946 and although he doubted if there were sufficient competent naturalists in the county to form a viable society he strove hard in the early days to make the Society a success. He sat on its Council, rarely missed an Ordinary Meeting and became recorder for Hymenoptera, an office he held until his death. He could not be persuaded to give a talk on his work, his reason given that it could have no interest to his audience. This was a pity as on spontaneous occasions he could fascinate those who heard him. He saw the success of the Society ensured in the standard achieved by its journal, which could be a means not only of providing its readers with details of all the work that was being done in the county but of giving them reference to such relevant material published elsewhere. This could be done by Abstracts of Literature, his innovation, from which he had a high expectation. To launch this on a sound foundation he abstracted from the entomological journals all references to the county back to 1864. Others were less conscientious than he was and his early interest in the Society began to wane. Conservation was beginning to interest him. He played a vital part in the formation of the South Bedfordshire Preservation Society and the ensuing legal action to try to save the Totternhoe Green Lanes. Simultaneously he assisted the Society in drawing up a list of sites in the county worthy of conservation. This was accepted in 1951 by the newly-formed Nature Conservancy as the basis of the schedule of SSSIs for Bedfordshire. He was also the prime mover in the undertaking of an ecological survey of Flitwick Moor which was unfortunately not completed.

In 1961 he married Betty M. Vizard who had previously been an assistant at Luton Museum and they lived in Harpenden to be nearer his place of work. Hitherto his headquarters had been his bedroom which I remember well with its series of carefully stacked insect boxes and library in which his note-books were an essential part. His interest remained in Bedfordshire and any field work he did in Hertfordshire was negligible.

It was about this time that the Bedfordshire and Huntingdonshire Naturalists' Trust came into being and although Chambers played no part in its formation he found in it a channel to absorb much of his activity. He undertook almost single-handed the management of the Totternhoe Local Nature Reserve and by so doing preventing the diminishing of its importance due to scrub invasion. His work here made him an authority on the maintenance of chalk downland. When the Trust was formed the Natural History Society was fully aware that it could itself become weaker in the process. These fears were confirmed, the Society reaching its lowest ebb when for two years a journal was not published. The Trust had also developed less rapidly than had been expected. In 1966 the Society asked the Trust to take it over, with what assets it then had. Chambers, by then a member of the Trust's Executive Committee, persuaded the Trust to be no party to such an arrangement — the two bodies were complementary, each important to the other. It may well have been the only occasion in his life when he spoke with such feeling and conviction. By so doing he saved the Society.

Following his retirement Vic returned to Bedfordshire, as we always knew he would. It was to Meppershall, in the middle of the county within easy reach of the Lower Greensand which meant so much to him. He had during the previous 20 years extended his interest to the Hymenoptera Parasitica which as their name suggests is a group of wasps parasitic on other insects. It was in this field of study that he was to make his most important contribution to biological science in identifying a genus of wasps some of which are parasites on other insects which are themselves parasitic on the Homoptera (true bugs). One is left wondering what must have taken place in the bygone evolution of these insects.

In retirement Vic undertook an entirely new field of research in accounting for the history of the village of his adoption. The result was a scholarly work, but of greater importance may well be his account in *Ardea* of the history of Flitwick Moor. He lost no interest in what the Society was doing as was shown in his reviews of the journal written above his pen name, John Curtis, in the *Bedfordshire Magazine*, of which his wife had become editor. These showed that while he did not always approve of what the Society was doing his criticisms were always constructive. In the course

of sixty years he had learned much more of Bedfordshire than just the life of its Hymenoptera and no-one ever appealed to him in vain for any other information that could be useful.

It is not surprising that Chambers' most valuable entomological work should have a wider appreciation outside Bedfordshire rather than within it where it was all achieved. He was elected a Fellow of the Royal Entomological Society in 1956 and was a member of its Council from 1967 to 1970. A full appreciation of his life would not be complete without passing reference to his other life interest, a love of ballet, the roots of which went back to his childhood. It was one shared to the fullest with Betty after their marriage.

A full list of his many writings has been deposited in the Bedford and Luton Museums. A shortened list given below includes his more important works relating to Bedfordshire. His important insect collection has been presented to the Department of Entomology at the British Museum (Natural History) which has given some duplicate material to other museums.

The passing of Vic to me will mean that we cannot now honour our long-standing agreement to walk across Flitwick Moor again on my hundredth birthday. It will be a visit I must make alone, carrying with me memories of one of the most extraordinary sons of Bedfordshire.

JOHN G. DONY

Given below is a shortened list of some of the more important writings of Chambers relating to Bedfordshire:

- 1933 Some Bedfordshire Hymenoptera Aculeata. *Ent. mon. Mag.* **69** 186-188.
 1946 An examination of the pollen loads of *Andrena*: the species that visit fruit trees. *J. Anim. Ecol.* **15** 9-21.
 1947 A list of sawflies from Bedfordshire. *Ent. mon. Mag.* **83** 91-95.
 1948 A bibliography of entomological notes relating to Bedfordshire. *Bedf. Nat.* **2** 62-64.
 1949 Additions to the Bedfordshire list of sawflies. *Ent. mon. Mag.* **84** 146-149.
 — The Hymenoptera Aculeata of Bedfordshire. *Trans. Soc. Brit. Ent.* **9** 197-252.
 (This is his most noteworthy entomological publication, having been described as 'probably the best example of a synopsis of the Aculeata of a single county').
 1951 The larvae of the Broom sawflies. *Ent. mon. Mag.* **86** 117-120.
 — The larva and food plant of *Rhogogaster chambersi*. *Ent. mon. Mag.* **87** 202-205.
 1952 The sawflies of Flitwick Moor. *Bedf. Nat.* **6** 20-24.
 — The natural history of some *Pamphilius* species. *Trans. Soc. Brit. Ent.* **11** 125-140.
 1954 Bedfordshire Plant Galls: Tenthrodimidae (sawflies). *Bedf. Nat.* **8** 21-22.
 1955 Further Hymenoptera records from Bedfordshire. *J. Soc. Brit. Ent.* **5** 126-129.
 1961 Bedfordshire sawflies with some new food-plants. *Ent. mon. Mag.* **89** 209-12.
 1969 Pollens collected by species of *Andrena*. *P.R. ent. Soc. Lond. (A)*, **43** 155-160.
 1971 Records of Belytinae mainly from Bedfordshire. *Ent. mon. Mag.* **104** 217.
 — Large populations of Belytinai. *Ent. mon. Mag.* **106** 149-154.
 1972 Bedfordshire Hymenoptera Belytinae: with four new species to the British Isles. *Ent. mon. Mag.* **107** 182-183.
 — Change in the bee and wasp fauna of Flitwick Moor in the last 25 years. *Bedf. Nat.* **26** 52-54.
 — *Totternhoe Local Nature Reserve* (in Everyman's Nature Reserve, publ. David and Charles).
 1974 Taxonomic notes on the Belytinae, with a new species of *Pantoclis* Förster. *J. Ent. (B)* **42** 127-131.
 1976 Hymenoptera Belytinae from Bedfordshire. *Ent. mon. Mag.* **111** 164.
 1979 *Old Meppershall, a parish history*. Published privately. 76pp.
 1980 Bedfordshire Eucolids. *Bedf. Nat.* **34** 50-51.
 — Notes on the history and vegetation of Flitwick Moor. *Ardea* (1979-80), 17-22, 31-35.
 1981 Coopers Hill, a guide to the reserve. *Ardea* (1980-81), 25-29.

PROCEEDINGS

Indoor Meetings

- 502nd Ordinary Meeting** 4th January, Bedford. "Wild life of the Coto Donana, southern Spain" by Mr C. Banks and Mr B.F. Barton. Chair: Mr D. Anderson.
- 503rd Ordinary Meeting** 10th January, Dunstable. Member's evening. Chair: Mr W.J. Drayton.
- 504th Ordinary Meeting** 18th January, Ampthill. "Bird-watching expedition to Ethiopia" by Mr P. Smith. Chair: Mr B.J. Nightingale.
- 505th Ordinary Meeting** 26th January, Luton. "Chemicals and insect behaviour" by Dr J.A. Pickett (Rothamsted Experimental Station) Chair: Mr J.P. Knowles.
- 506th Ordinary Meeting** 2nd February, Bedford. "An English country garden" by Mrs A. Scott. Chair: Mrs B. Chandler
- 507th Ordinary Meeting** 7th February, Dunstable. "Mediterranean hot spots" by Mr M.R. Chandler. Chair: Mrs E.B. Rands.
- 508th Ordinary Meeting** 16th February, Leighton Buzzard. "Litter" by Mrs E.B. Rands. Chair: Miss R.A. Brind
- 509th Ordinary Meeting** 22nd February, Ampthill. "The vanishing islands of Bedfordshire — conservation in the county" by Mr J.R.A. Niles. Chair: Mr M. Sheridan.
- 510th Ordinary Meeting** 1st March, Luton. Members' evening. Chair: Mr V.W. Arnold.
- 511th Ordinary Meeting** 7th March, Bedford. "My way of photographing nature" by Mr R. Revels. Chair: Mr A.J. Martin.
- 512th Ordinary Meeting** 13th March, Dunstable. Chairman's evening — expedition to Skokholm. Speakers: Mr A.J. Martin, Mr R. Revels and Mr J. Zorzi. Chair: Mr D. Green.
- Annual General Meeting** 22nd March, Flitwick.
- 513th Ordinary Meeting** 3rd October, Bedford. "Some personal studies of birds" by Mr J.P. Knowles. Chair: Mrs S. Fothergill.
- Special General Meeting** 10th October Ampthill.
- 514th Ordinary Meeting** 10th October, Ampthill. Natural history films, photographed by Mr W. Champkin. Chair: Mr B.J. Nightingale.
- 515th Ordinary Meeting** 16th October, Dunstable. "Lichens in churchyards" by Mrs F.B.M. Davies. Chair: Mr C.R. Boon.
- 516th Ordinary Meeting** 1st November, Bedford. "Slides from the Royal Photographic Society exhibition". Chair: Mr R. Revels.
- 517th Ordinary Meeting** 6th November, Dunstable. "Orchids of the Chilterns" by Mr R. Bush. Chair: Mr S. Cham.
- 518th Ordinary Meeting** 15th November, Luton. "Life on the Isle of Sheppey approx. 60 million years ago" by Dr A.J. Rundle. Chair: Mrs E.B. Rands.
- 519th Ordinary Meeting** 22nd November, Flitwick. "Arrested in Yugoslavia" by Mr R. Chandler. Chair: Mr M. Sheridan.
- 520th Ordinary Meeting** 18th December, Dunstable. "Icelandic summer" by Mr M. Amphlett. Chair: Mrs M. Sheridan.

FIELD MEETINGS

- | | |
|-------------|---|
| 1st January | Maulden Woods in winter — a comparative look six months after the June all night meeting. Leader: Dr B.S. Nau. |
| February | Scolt Head, Norfolk. Leader: Mr A. J. Livett. |
| 25th March | nr Millbrook. Walk through Greensand plantations. Leader: Mr J.P. Knowles. |
| 1st April | Barkers Lane. Leader: Mr D.J. Odell. |
| 15th April | Mangrove and Ravensdell Woods. By kind permission of Mrs C. Horton. Leader: Mr H. Pegg. |

- 29th April **Boundary Farm, Framsdon, Suffolk.** To see the Fritillary meadows.
Leader: Mr S Cham.
- 6th May **Barton Hills.** To count the Pasque Flowers. Leader: Mr J. Burchmore.
- 11th May **Henlow Scout Camp.** Leaders: Mr V. Arnold and Mr T. Hollingworth.
- 15th May **River Ouse, Bedford.** Leader: Mr J.P. Knowles.
- 19th May **Wareley and Gransden Woods, Cambs.** Leader: Mr R. Revels.
- 20th May **Maulden Wood.** Demonstration of bird ringing. Leader: Mr P.J. Wilkinson.
- 22nd May **Charle Wood, nr Aspley Heath.** Leader: Mr P. Smith
- 1st June **Cooper's Hill, Ampthill.** Leaders: Mr V.W. Arnold and Mr D.G. Rands.
- 3rd June **Radwell.** Invertebrates in marsh, river and wood habitats. Leader:
Dr A. J. Rundle
- 10th June **Swineshead.** Study of green lane. Leader: Mr C.R. Boon.
- 14th June **Stanford Wood.** Leader: Dr J.G. Dony.
- 15/17th June **Yorkshire Dales.** Weekend trip. Leader: Mr V.W. Arnold.
- 23/24th June **Maulden Woods.** Annual all-night meeting.
- 1st July **Markham Hills and Sharpenhoe Clappers.** Leader: Dr B. Verdcourt.
- 8th July **Strumpshaw Fen, Norfolk.** Car trip. Leaders: Mr D. Green, Mr B. Harding
and the Warden.
- 15th July **Rushmere Park.** Leader: Mr D.G. Rands
- 22nd July **Barkers Lane.** Leader: Mr D. Kramer.
- 29th July **Little Staughton.** parish. Leaders: Mr and Mrs Muir-Howie.
- 1st August **Totternhoe Knolls.** Leader: Mr A. Barker.
- 12th August **Cardington Mill.** Leader: Dr J.G. Dony.
- 22nd August **Stockgrove Park.** Leader: Mr S. Halton.
- 2nd September **Felmersham Nature Reserve.** Dragonflies. Leader: Dr B.S. Nau.
- 9th September **Shuttleworth College.** One day course on a variety of natural history subjects.
- 23rd September **Lidlington Parish.** Leader: Mr N. Pollard.
- 30th September **Stockgrove park.** Annual fungus foray. Leader: Dr D.A. Reid.
- 7th October **Bedfordshire Geology.** Car trip. Leader: Mr G. Osborn.
- 14th October **Bramingham Wood.** Fungus foray. By kind permission of Mrs B.L. Robinson
and Mr and Mrs Fieldhouse. Leader: Mr A.R. Outen.
- 28th October **Maulden Wood.** Small mammal trapping. Leader: Mr D.G. Rands.
- 18th November **Willen Lake, Milton Keynes.** Leader: Mr A. Tomczynski.
- 30th December **Blackwater Estuary, Essex.** Leader: Dr B.S. Nau.

REPORT OF THE TREASURER

The loss for the year on our Current Accounts was £423, much of this being due to the increased cost of our Journal, due to its larger size and a general increase in costs. Other increased charges were for hall hire and lecturers' fees as well as for the purchase of paper for the newsletter. At a Special Meeting the Membership Subscription was increased so that we should now cover our costs for the current year at least.

The donations of £20 were given in memory of Dr V. Chambers whose death occurred during the year. This will be put into the Publication Fund.

We have opened a High Interest Bank Account to give a better return on our capital held in the Bank. The £1,000 invested in the Southend B.C. Bonds was repaid this year into the Bank Account, but in view of the low interest levels at the time and the way in which they are now rising again, re-investment was postponed but will now be carefully considered again. Our total assets have again increased during 1984.

As Treasurer I would like to pay tribute to the help given by all the Officers, especially our Honorary Secretary, Mary Sheridan, who is standing down this year.

M.R. CHANDLER

INCOME AND EXPENDITURE ACCOUNT FOR YEAR ENDED 31st DECEMBER 1984

INCOME - Current Accounts

1983		1984
£		£
1242	Subscriptions	1294
40	Sales	61
6	Surplus on meetings	-4
10	Donations	20
1298		1371

EXPENDITURE - Current Accounts

1983		1984
£		£
	ADMINISTRATION	
33	Postage	37
12	Sundries	8
29	Insurance	32
10	Auditors' honorarium	10
84		87
	MEETINGS	
151	Hire of Halls	189
13	Lecturers and Films	61
150	Programmes	149
314		399
	SCIENTIFIC	
845	Journal	1038
20	Recorders' Expenses	10
6	Site Recording	6
16	Sundries	8
887		1062
	PUBLICITY	
46	Newsletter	146
—	Application Forms	43
17	Advertising	5
63		194
	DEPRECIATION	
34	of equipment	52
34		52
- 84	Excess of Income over Expenditure	- 423
1298		1371
	PUBLICATIONS ACCOUNT	
758	Brought Forward	854
99	Income	70
3	Expenditure	2
854		922

DEPOSIT ACCOUNTS — Interest

551	City of Nottingham Bonds	551
218	East Staffs. Co. Co. Bonds	218
93	Redbridge Borough Bonds	93
100	Southend on Sea B.C. Bonds	62
278	Bank Deposit Account	463
1240		1387

BALANCE SHEET AS AT 31st DECEMBER 1984

1983	FIXED ASSETS	COST		DEPRECIATION		1984
		Total	Year	Total	Year	
35	Books and Journals	5		5		30
8	Bird Song Records	8		8		—
15	Display Board	15		15		—
14	Screen	20	8	2		12
12	Projector	60	54	6		6
22	Duplicator and Stand	110	99	11		11
50	Malaise and Mammal Traps	50	5	5		45
156				52		104
	CURRENT ASSETS					
171	Bank Account					210
4772	Deposit Accounts					8097
51	Cash in Hand					51
3000	City of Nottingham Bonds (to 30.6.85)					3000
3000	City of Nottingham Bonds (to 30.6.87)					3000
2500	East Staffs D.C. Bonds (to 10.9.89)					2500
1000	Redbridge Borough Bonds (to 5.8.86)					1000
1000	Southend-on-Sea Bonds					—
15494						17858
276	Debtor					
	CURRENT LIABILITIES					
25	Creditors					1053
£15901	TOTAL					£16805

M.R. Chandler
Honorary Treasurer

P.J. Higgins

S. Drayton (Mrs.)
Honorary Auditors

METEOROLOGY

Report of the Recorder

THE WEATHER OF 1984

In general terms the weather for 1984 was not dissimilar to that for the previous year and there were few notable or outstanding meteorological events. Temperatures for January were just above average but it was quite wet (as much as 50% more in some places). It was generally windy with one cold spell in the third week with snow showers. Bedfordshire escaped most of the severe winter weather whilst in the north of the country some 2000 people were trapped by strong winds and heavy snow at one time in Scotland.

Temperatures for February were again near average, and although wet for the first week it was then generally rather cold and frosty. March was a generally cold and cloudy month with only half the usual amount of sunshine. Despite this, frost occurred on some 20 days and easterly winds were particularly common in the first half of the month. April was exceptionally dry, typically 8mm to 11mm rainfall, which is only 30% of the average. Temperatures were normal by day but cold at night with frost on a further 20 nights in most places. This was largely the result of predominantly anticyclonic weather with a high frequency of easterly winds. It was quite sunny, particularly in the last two weeks which were rather warmer.

May was a most unseasonable month being both cold and wet with daytime temperatures little higher than in April on average (in fact the warmest day in the two months was in April). Rainfall was about 75% of average and again there was a strong predominance of winds from an easterly or north-easterly direction (in contrast Scotland was very dry and quite warm).

The weather improved in June with temperatures near average with some quite hot days mid-month. A notable feature was a violent thunderstorm in the Luton area on the 17th giving 60mm of rain there — 50% more than the total month's rainfall anywhere else in Bedfordshire. Water cascaded down the Barton hills badly flattening crops. July was mostly warm and very dry (7mm to 17mm rainfall) only 15% of the average despite thunderstorms in some places (e.g. 22nd in Luton). It was hottest in the first week (86°F - 30°C) and in the last week (85°F - 29.4°C). August was another warm month with several hot days in the third week and thunderstorms in several places. As a result rainfall was not far below average. 1984 was the third summer in a row to provide generally warm sunny weather.

In contrast, September was cool and wet, and there were no warm days except for the 1st and 2nd. Rainfall was well above average. October was very normal though the winter's first frost on

Month	Mean Max°C	Mean Min°C	Highest Temp°C	Lowest Temp°C	Rainfall mm	Sunshine hours	Air Frost	Ground Frost
January	6.8	0.2	12.7	-6.8	64	78	13	23
February	6.1	-0.5	11.8	-6.8	35	65	12	18
March	7.5	1.0	11.8	-2.4	38	37	10	17
April	13.0	1.0	21.9	-6.2	9	219	11	19
May	13.7	4.0	20.6	-2.3	81	126	2	8
June	19.8	8.8	25.8	3.6	45	215	0	0
July	22.8	10.4	29.3	4.0	9	222	0	0
August	23.4	11.6	28.8	4.5	42	184	0	0
September	17.2	10.0	24.7	5.0	100	100	0	0
October	15.1	7.4	20.1	-2.0	41	100	1	4
November	11.0	5.3	17.5	0.8	90	53	0	6
December	8.1	1.9	12.9	-3.6	36	63	12	19
Year	13.7	5.1	29.3	-6.8	590	1462	61	114

the 27th was quite late. November was dull, wet and mild and there was none of the typical cold dry frosty weather quite common at this time of the year. Mid-month onwards was particularly dull and wet — my weather notes towards the end of the month note “sun at last”! To round off the year, December was generally mild, although colder in the last week. There was little frost and no snow.

In a county as small as Bedfordshire, and with no really pronounced contrasts in relief, there is generally little variation in the weather from one part of the county to another. Rainfall is the most variable parameter. Even so this is a low rainfall area anyway compared to the rest of England, and random thunderstorms, as occurred in June in Luton, can have a far bigger effect on the rainfall at any one place. Overall in 1984, the south of Bedfordshire associated with the Chilterns was the wettest part, and the north-eastern area of the lower Ouse valley the driest part.

I reproduce once again a summary of the year's weather recorded at the National Institute of Agricultural Engineering at Silsoe. The description of 1984's weather in Bedfordshire is based additionally on records from Luton, Barton, Bedford and Sandy with rainfall records only from many other sites. Thanks go to Mrs R. Taylor at Silsoe, various wardens at The Lodge, Sandy, and to the Anglian and Lea Valley Water Authorities for their help.

MIKE WILLIAMS

MAMMALS

Report of the Recorder

After 14 years of accumulative distribution recording, it is not surprising if no new species are recorded, the number of records and their range is small and only filling in the odd corners, and the number of people supplying the records is low. Notwithstanding any of the reasons behind that statement, it was certainly not representative of 1984 which in all aspects can be called a bumper year.

Through the efforts of Stephen Cham, 1984 did produce a new species, that of Sika Deer; but I would have to qualify this by classifying it as an escape. A group of at least nine have been seen close to, but outside, Woburn Park where they are free to go where they please. They are known to have escaped from Woburn when a gate was left open some time ago but have evaded capture by the park deer keepers, who have now given them up as lost. So far they have been seen in three adjoining tetrads but time will tell if they will increase their range. It should be remembered that two Sika Deer, also from Woburn and maybe from the same escape, were seen at Dunstable from December 1982 until February 1983. In the same location at Woburn, and in the same state, are three Red Deer and one Fawn but so far they have only been sighted in one tetrad. Again it will be interesting to see if they will move out to colonize other parts of the county. Since 1971, 37 species of mammals have been recorded in Bedfordshire. During 1984 records were obtained for 31 of these species, which is a very good percentage and reflects the high numbers of records obtained. 100 new tetrad records were submitted with most of the 'no record tetrads' on the county borders being filled in due to the good work of Stephen Halton. This leaves only five tetrads in the county without any species being recorded from them and gives us 97% coverage of the whole of Bedfordshire. Eight new 10 Km. square records were obtained, which have been sent on to Monks Wood for inclusion in the "National Mammal Distribution Maps". As for the number of people supplying records, it really was a bumper year with records from 55 people, 17 of whom were non-members.

Last year I asked members to note their first and last hedgehog sightings. In 1984 Mrs Sparksman saw her first animal on the 23rd March while Barry Nightingale had to wait until the 18th April. The last Hedgehog seen varied from the 27th October to as late as the 19th December. It would be interesting to know if these dates, on a year to year basis, could be compared to the weather. Would members please again note their first and last Hedgehog sightings so that we can check if there is a year to year variation.

A very unusual but sad record was obtained when Adrian Rundle and Derek Rands found a Daubenton's bat caught on a discarded fishing hook hanging from a tree by the River Ouse at Great Barford. The Bat was still alive and Derek took it home and fed it up for three days before releasing it at the original site in a healthy state. Not much other Bat work was done during the year. No large roosts were reported and it looks as if Bats continue to decline.

As I expected, my comment that no-one reported myxomatosis during 1983 produced a late confirmation of its existence but reports for 1984 showed it to be present in four locations, with the general opinion that Rabbit numbers were increasing. Brown Hares were also considered to be increasing in numbers, which is good news, with party size being up on the last few years.

Four records of Fat Dormouse were received from Whipsnade and Studham, the latter animal being killed by a cat. It was reported the cat was badly bitten and in poor shape so it probably won't try to catch one again.

Only the third county site record for Yellow-necked Mouse was obtained during the year. John Green's daughter, Jennie, found the specimen in her local swimming pool and, recognising it as a Yellow-neck, took it home to give to John. This valuable record was obtained, it must be recorded, by a 12 year old and I only wish a few adults could find some as well.

Badger and badger sett recording continued at its usual high level due to the time consuming efforts of a small but keen group. The number of active setts remains about the same as in 1983 with no major losses or gains. A total of 41 badger watches were made during the year at 15 different setts which resulted in more Badgers, both adults and cubs, being seen. When compared to the results gained in 1983 however the total number of Badgers seen per watch, and the total number of Badgers seen per sett, were slightly down. It appears the number of adults has declined slightly while the number of cubs has increased slightly. 1985 will confirm, or not, if these new cubs will increase the population in 1985 and later years. During the year 10 Badgers were found killed on the roads, several of which were sent to MAFF for Bovine TB checks, all of which once again proved negative.

Over the last year or two several members have reported on the number of Stoats seen compared to the low number of Weasels. This has led me to investigate the position for the whole of Britain and check other people's opinions. The main food prey of Stoats is the Rabbit, while the Weasel is too small to take any but the sick or young Rabbits. It relies instead on Mice and mainly the Short-tailed Vole. However, the Short-tailed Vole lives in long, rough grass which obviously is not rabbit-cropped, so the numbers of Rabbit and Short-tailed Vole are in opposition and, if the Rabbit increases in number, the Short-tailed Vole will decline. As I have already reported, Myxomatosis is at a low level and the rabbit population is increasing. This favours Stoats rather than Weasels and explains why people see more of them now compared to a few years ago. In Bedfordshire records show a higher number of Weasels up to 1982, since when the Stoat has had the larger number. Plotting the results in graph form shows the number of Weasel records started to decline in 1979, as did the Short-tailed Vole, but no similar trend was noticeable for Bank Vole or Fox, which is another predator on the Short-tailed Vole (but obviously it is not so dependent on just one species). This is a most interesting inter-relationship of different species. The data was all there, just waiting to be checked, and I am most grateful to the members who drew my attention to their field observations.

A species that has caused concern in the past for its low or zero numbers is the Chinese Water Deer, but I am happy to report that 1984 produced seven records and three new tetrad records. In relative terms, the species has had a good year.

Small mammal trapping showed a massive increase over 1983 due to the work done during The Mammal Society Junior Camp held at Whipsnade in August. The total was 583 trap nights but results of animals caught per trap night were well down on 1983. The only species showing an increase was Common Shrew and the results suggest a fall in the population of all other species of small mammals. Derek Rands had a most interesting BNHS Field Meeting in Maulden Wood at the end of October and caught six species from 34 traps: these being Wood Mice, Harvest Mice, Common Shrew, Pygmy Shrew, Bank Vole and Short-tailed Vole. It was a good morning for those present and I hope it will encourage more members to attend Society meetings.

The annual Mammal-thon, to see which team of two people could see the most number of



Daubenton's Bat Myotis daubentoni rescued from a fishing hook, Great Barford.

(Photo: Derek Rands)

mammal species in a set 24 hour period, was won by Stephen Halton and Ron Fryett. My congratulations to them on a day when mammal numbers were distinctly low.

Our current Mammal Distribution maps started in 1971 and the end of 1985 will mark a 15 year period. As this will leave another 15 year period to the end of the century I intend to close these maps at the end of 1985. Will all members please make every effort to fill in any gaps in our records during the next year so that the finished maps will stand as an accurate record of the mammal distribution in Bedfordshire.

To the large number of people who supplied the records may I say a sincere thank you. Your efforts make it all possible.

The new tetrad records for 1984 are listed below and, if added to the distribution maps published in the Journal for 1974 (*Bedf. Nat.* 29 36-39) and the update lists published each year since then, will give a full record of the distribution of the mammal species that have been found in Bedfordshire since 1st January 1971.

Hedgehog *Erinaceus europaeus* - 2 tetrads. 96Y, 01J.

Mole *Talpa europaea* - 6 tetrads. 92GN, 02H, 06W, 12G, 16C.

Common Shrew *Sorex araneus* - 7 tetrads. 92J, 93Q, 95L, 01J, 02L, 03F, 04P.

Pygmy Shrew *Sorex minutus* - 2 tetrads. 04Y, 25A.

Water Shrew *Neomys fodiens* - 1 tetrad. 25A.

Bat - 3 tetrads. 01CJ, 25Q.

Daubenton's Bat *Myotis daubentoni* - 1 tetrad. 15F.

Natterer's Bat *Myotis nattereri* - 1 tetrad. 03B

Pipistrelle Bat *Pipistrellus pipistrellus* - 1 tetrad. 02K.

Rabbit *Oryctolagus cuniculus* - 11 tetrads. 92LS, 96XY, 01J, 06W, 07K, 13S, 16CD, 25G.

Brown Hare *Lepus capensis* - 8 tetrads. 93X, 03H, 06W, 13S, 14Z, 16C, 24J, 25A.

Bank Vole *Clethrionomys glareolus* - 3 tetrads. 04UY, 25Q.

Short-tailed Vole *Micotus agrestis* - 8 tetrads. 92B, 95L, 01EH, 02K, 04U, 06W, 25A.

Harvest Mouse *Micromys minutus* - 1 tetrad. 04Y.

House Mouse *Mus musculus* - 5 tetrads. 92C, 01E, 02C, 04Y, 16B.

- Yellow-necked Mouse** *Apodemus flavicollis* - 1 tetrad. 14X.
Wood Mouse *Apodemus sylvaticus* - 6 tetrads. 92C, 95L, 02D, 04Y, 14K, 16B.
Brown Rat *Rattus norvegicus* - 4 tetrads. 93V, 95L, 07F, 15E.
Fox *Vulpes vulpes* - 4 tetrads. 01J, 05M, 06W, 25G.
Badger *meles meles* - 4 tetrads. 92TY, 02P, 06B.
Mink *Mustela vison* 2 tetrads. 04J, 16A.
Stoat *Mustela erminea* - 2 tetrads. 01J, 12C.
Weasel *Mustela nivalis* - 3 tetrads. 02NV, 05C.
Chinese Water Deer *Hydropotes inermis* - 3 tetrads. 93GSW.
Fallow Deer *Dama dama* - 1 tetrad. 01J.
Muntjac Deer *Muntiacus reevesi* - 6 tetrads. 92V, 01L, 03Y, 06N, 12C, 13S.
Red Deer *Cervus elaphus* - 1 tetrad. 93Q.
Sika Deer *Cervus nippon* - 3 tetrads. 93QRV.

The contributors of these records are as listed below, to whom I again give my thanks for their time, effort and expertise. Without them it would not be possible to produce this report.

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DAVID ANDERSON

PIED FLYCATCHER — Confirmed breeding in Bedfordshire by Brian R. Sawford

North Hertfordshire Museums Natural History Department recently acquired additional specimens to the Herbert William Holben (1864 to 1955) oological collection. Within this is a clutch of five eggs of the Pied Flycatcher *Ficedula hypoleuca*. These were taken from near Sandy, Bedfordshire on 20th June 1896 by F. Saunders of Sandy. This is the first and only confirmed breeding occurrence for Pied Flycatcher in Bedfordshire. (Steele Elliott in *Victoria County History* (p. 111) mentions possible breeding at Pepperstock in the late 19th century and in the BNHS Bird Report for 1953 (*Bedf. Nat.* 8 39-40) mention is made of possible breeding in Bedford - Ed.) It also represents one of very few records outside the normal western and northern breeding range of this species. The clutch was originally in the collection of Capt. Saville G. Reid, a well-known oologist in the latter part of the nineteenth century. It was subsequently purchased at auction by Holben.

Holben lived at Barton in Cambridgeshire for most of his long life. He collected in Britain, but added extensively to his worldwide collections through purchase at sales and auctions and probably by exchange. However, the Pied Flycatcher clutch represents the only Bedfordshire material in the Holben collection.

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BIRDS

Report of the Recorder

INTRODUCTION

The year started much as 1983 had finished, with the Great Grey Shrike at Barkers Lane and Buzzards in the Old Warden area still on view. New arrivals during January included Twite, a Kittiwake, and on the 22nd, coinciding with blizzards in the north of England, Shag, Red-crested Pochard, Whooper Swan, Goosander and Smew. On the 24th a Hen Harrier was found near Shillington which lingered into February, when, on the 4th, a Merlin dashed through Barkers Lane. A Glaucous Gull was evident for most of the second half of February, two parties of Bewick's Swans also appeared, and a Long-eared Owl was found near Luton. One of the most interesting events of the year occurred at Biggleswade on the 20th when a Serin, an addition to the county list, was retrieved, having been killed by a cat.

March was rather quiet by comparison but nevertheless witnessed a strong passage of Curlew, the first of many Common Scoter, a Glaucous Gull and only our second Mediterranean Gull. The first half of April was dominated by cool northerlies and these acted as a deterrent to spring migration. Moreover bad weather over the Mediterranean held up the returning migrants and many of those species which normally arrive early were delayed. However, conditions turned favourable in mid-month and a sudden rush occurred with Black Redstarts, Pied Flycatchers, Whinchats and Ring Ouzels well represented. On 15th April a Water Pipit graced Stewartby, staying all too briefly, as did our only pair of Garganey and two Avocets at South Mills. A feature at this time was an unprecedented passage of Bar-tailed Godwits which continued into May. Involved in the same movement were Spotted Redshanks, Wood Sandpipers, a Black-tailed Godwit, Whimbrel and Turnstone. Equally pleasing was a strong passage of terns, involving Black, Arctic and Sandwich, and good numbers of Little Gulls. Red-breasted Mergansers were unexpected as was a male Grey-headed Wagtail which was found on the last day of April. This was the first time that this race of Yellow Wagtail had been identified in the county. The excitement continued into May with two Wrynecks, Sanderling, Marsh Harriers at South Mills and Sandy and an Osprey over Biggleswade Common. A male Firecrest, found at The Lodge, managed to attract a mate and stayed to raise three young, this being the first positive breeding record for the county. Another two Firecrests were found singing in Aspley Heath whilst back at the Lodge good numbers of Crossbills were on show. Towards the end of May Stewartby attracted attention with more Sanderling, two Little Terns, and a nearby Corncrake, our first for ten years.

Thoughts in June naturally turn to the breeding season, and although the Quail found in two localities were probably migrants a Goshawk over Whipsnade must give rise to speculation. Elsewhere two pairs of Shelduck bred, Hobbys did well, Long-eared Owls bred at at least one site and eight pairs of Grey Wagtail were observed during the breeding season.

The effects of the problems faced by our summer visitors during their stay in the drought-ridden Sahel area of Africa was seen in the county. It has been estimated that numbers of Sand Martins breeding in south east England reduced by 87% and this was evident in Bedfordshire. Whitethroats, Chiffchaffs and Spotted Flycatchers were also down, but some species that winter in different areas such as Garden Warbler, actually increased, as did several of our resident species such as Wrens, Blue Tits and Great Tits, benefiting from the previous mild winter.

The autumn passage started well with Little Tern and Quail in July, good numbers of Oystercatchers, a few Ruff and Whimbrel and a steady stream of Greenshank. At the end of August Harrold proved attractive for Sanderling and Grey Plover, and Wrynecks were found at two localities. On 31st a wayward Manx Shearwater was picked up alive in Barton and released on the coast the next day. Both September and October were dominated by westerlies and as a result were quiet. However an obliging Osprey stayed for two weeks, a Little Stint appeared, both Slavonian and Black-necked Grebes showed at Brogborough and a Great Grey Shrike was found at Sandy.

November made up for this quiet spell. On the 2nd, Bearded Tits were found at Harrold and a Glaucous Gull was seen at Stewartby. Two days later a Water Pipit and Merlin appeared at Dunstable Sewage Works and in mid-month two parties of Bewick's Swans passed through. A Hen

Harrier was seen at The Lodge but the biggest surprise was a Great Skua, only our third, which stayed at Stewartby for two weeks. Equally unexpected were eight Avocets which stayed rather more briefly at Vicarage Farm. December opened with another Hen Harrier, more Bewick's Swans, Goosander and, less seasonally, wintering Blackcaps and Chiffchaffs. A Red-necked Grebe arrived to stay into 1985, Grey Plover and Little Gull were found, and a Red Kite passed over Reddings Wood, Ampthill, to close a year in which 182 species were recorded.

My thanks go to the following observers:-

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SYSTEMATIC LIST FOR 1984

Species recorded in Bedfordshire during 1984 in usual numbers and not included in the systematic list are:- Kestrel, Red-legged Partridge, Pheasant, Common Gull, Herring Gull, Great Black-backed Gull, Tawny Owl, Green Woodpecker, Great Spotted Woodpecker, Dunnock, Blackbird, Mistle Thrush, Jackdaw, Rook, Carrion Crow, House Sparrow, Linnet, Reed Bunting.

English and Scientific names follow the "*British Birds*" *List of Birds of the Western Palearctic* (1978).

The following abbreviations are used in the text: CBC = common bird census; CHP = chalk pit; CLP = clay pit; CP = country park; GP = gravel pit; L = lake; R = river; SP = sand pit; SW = sewage works.

Little Grebe *Tachybaptus ruficollis* Breeding reports from Chimney Corner CLP where probably two pairs bred, and Houghton Regis CHP where two pairs attempted to breed but failed due to human disturbance. Certainly as a breeding species under recorded.

Great Crested Grebe *Podiceps cristatus* Breeding at Barkers Lane with one pair, Chimney Corner with at least one pair, Grovebury Road SP with at least two pairs raising seven young, Harrold CP one pair, Lidlington CLP one pair, Luton Hoo two pairs, Stewartby L one pair and Houghton Regis CHP where one pair attempted to nest but failed. The highest winter gatherings were at Barkers Lane with 59 on 10th March, and at Stewartby L where flocks of 50 were counted during January, October and December.

Red-necked Grebe *P. grisegena* First seen on 15th December at Stewartby L this bird stayed at Stewartby/Millbrook CLP into 1985 (MJP, DHB, AT *et al*)

Slavonian Grebe *P. auritus* One at Brogborough L 27th and 28th October (MJP, DHB, AT *et al*).

Black-necked Grebe *P. nigricollis* One at Brogborough L 28th October (AT, DHB, JS)

Manx Shearwater *Puffinus puffinus* One found at Barton on 31st August was released on the coast the next day (IK).

Cormorant *Phalacrocorax carbo* Seen in every month except June and July, with numerous records and from a wide scatter of localities. The largest groups were eight on 1st September at Barkers Lane and six at Brogborough L on 5th October, six at Harrold CP on 6th October (perhaps the same), and six at Stewartby L on 16th December. Groups of twelve and nine passed west over Barkers Lane on 18th April. There was an impressive influx during



Shag at Stewartby L. in February.

(Photo: Andy Tomczynski)

November with singles Dunstable SW on 4th, two at Stewartby L the same day, two again on 11th and four on 24th with a single most of the month, single Luton Hoo on 6th, two on 18th with one remaining until 21st, singles Brogborough L between 2nd and 26th with five over on 5th, single Blunham L 24th with two on 29th, three over The Lodge, Sandy on 25th and single Barkers Lane on 11th.

Shag *P. aristotelis* A remarkable influx followed severe gales in the north-west. The first was one at Brogborough L on 22nd January which may have been the same as one at Stewartby L on 25th. There were two there on 28th January which were then augmented by a further influx in mid-February. Four were seen on the 13th February and elsewhere singles were seen at Barkers Lane and Harrold CP. Stewartby L still held three during March and a single was seen on R. Ouse, Bedford in mid-March. The last left Stewartby L on 14th April. Most of the birds were immatures but one at the Blue Lagoon on 4th March was in full breeding plumage. This was the largest influx into the county since 1958 (AT, DJO, CW *et al*).

Grey Heron *Ardea cinerea* Five nests were occupied in Luton Hoo. There were no reports from either Southill L or Bromham. An interesting record was of 27 adults and juveniles at Grovebury Road SP on 8th July with 21 at the same site 20th August.

Mute Swan *Cygnus olor* Breeding records as follows: Barkers Lane one pair (four young); Dunstable SW one pair, success unknown; South Mills GP two pairs (four young); Harrold CP one pair, success unknown; Stewartby L one pair (four young); R. Ouzel, Leighton Buzzard one pair (four young) and R. Ouse at Stevington (pair on nest) and at Turvey (pair on nest).

The largest gatherings were 36 at Blunham L 19th January, 25 on R. Ouse west of Felmersham on 1st April and 18 on R. Ouse, Bedford on 4th April.

Bewick's Swan *C. columbianus* In February two were at Dunstable SW on 17th and 19 flew over Brogborough L on 29th. In November seven were seen at Barkers Lane on 13th and then 13 stayed at Harrold CP on 18th and 19th. Finally in December eight flew over The Lodge, Sandy on 1st, eight were at Barkers Lane on 8th and 16 were seen over Ickwell and then Radwell on 26th. (AT, DSW, WEB *et al*).

Whooper Swan *C. cygnus* At Blunham L up to four feral birds remained during January with two still there at the end of the year. A single at Millbrook CLP on 22nd and 25th January was considered to be wild. (JTRS, AT, DHB)

- Pink-footed Goose** *Anser brachyrhynchus* One, found at Harrold CP on 28th January stayed in the Harrold/Radwell area until 5th March. Although these dates suggest genuine vagrancy all records of single birds must remain of suspect origin. (DSW, AT, MJP *et al*).
- White-fronted Goose** *A. albifrons* Three at Harrold CP on 12th February involved an adult and two sub-adults, one of which was injured. The adult stayed in the Harrold/Radwell area until 18th March. One was seen at Chimney Corner CLP 28th April, the origin of which must be doubtful (DSW, AT, PMT, *et al*).
- Greylag Goose** *A. anser* The only young seen this year were at Harrold CP. Harrold/Radwell attracted the largest flocks with a maximum of 234 during January and February, and 190 in November. At Blunham L 90 on 26th February, 60 on 25th March, 152 on 26th August and 74 on 24th November. Smaller numbers were seen at several other sites.
- Canada Goose** *Branta canadensis* Breeding records from Brogborough L (five young), Chimney Corner CLP (eight young), Harrold CP, Luton Hoo (two broods), Millbrook CLP (five young), Southill L and Houghton Regis CHP where a single pair failed. Impressive counts included 305 in Woburn Park 2nd January, 97 at Turvey 7th January, 114 Chimney Corner CLP 18th August, 243 at Brogborough L 12th September, 327 in Luton Hoo 8th October, 141 Grovebury Road SP 13th October, 187 Harrold CP 14th October and 73 Southill L 31st December.
- Shelduck** *Tadorna tadorna* A pair was seen with four young at one site in June, and a pair was seen with eight ducklings at a second. Unfortunately at this last site adults and young had disappeared by mid-June.
Records came from four localities in February and then a sudden increase was seen in March with up to 16 birds involved, and another at the end of April with reports from 11 sites involving a minimum of 24 birds, including six at Stewartby L on 28th April. Another seven were seen at this site on two dates in May. Numbers reduced during June and the species was virtually absent during July and August. Then seen on only five dates to the end of the year, apart from a small influx at Barkers Lane with 11 on 1st September.
- Mandarin** *Aix galericulata* A good year for this species, although only one definite breeding record was received, that of a single pair in Luton Hoo. Maximum of 20 on the Woburn Lakes in January and again in April, six during January between Turvey and Harrold, three at Barkers Lane during October, and singles at Stockgrove Park, Millbrook CLP and Heath and Reach.
- Wigeon** *Anas penelope* A good year with a small but widespread movement noted in early September, early April and again mid-May. The highest numbers during the year were at Barkers Lane with a maximum of 53 on 16th February and 43 on 8th December, and Radwell GP with 200 plus on 19th February and 213 on 16th December. The latest to depart were two at Stewartby L on 18th May and the first autumn arrival was one at Brogborough L on 25th August. Records were received from a total of 12 localities during the year.
- Gadwall** *A. strepera* The decline noted in 1983 continued with a maximum of 41 at Dunstable SW on 27th December, and 30 at Blunham L on 26th December. Records from 11 other sites with the next highest count of 14 at Radwell GP 18th November. These were the lowest levels since 1979.
- Teal** *A. crecca* Although records were received from 18 sites numbers were well down. The highest during the first winter period was 115 at Barkers Lane, and 80 at Southill L. In the second winter period maxima were 78 at Barkers Lane and 63 at Southill L; no other count exceeded 43.
At South Mills GP a pair raised seven or eight young, and at Vicarage Farm CLP breeding display was noted during June.
- Mallard** *A. platyrhynchos* 150 young were produced at Barkers Lane. The wintering population was about the same as 1983 with a maximum of 650 at Harrold CP 22nd October and then in January 508 at Southill L on 21st, 371 Luton Hoo on 15th, 300 at Turvey on 7th and 400 at Harrold CP on 15th.
- Pintail** *A. acuta* An average year with singles at Barkers Lane on 22nd January and two at Radwell GP and Chimney Corner CLP between 22nd and 28th January. Four arrived at Harrold CP

on 25th August, with one remaining to the end of September, one was at Brogborough L during September and December, and one was found dead at Whipsnade Zoo 21st November.

Garganey *A. querquedula* A pair was present at South Mills GP between 27th and 29th April and a drake was seen nearby on 5th May. There were no autumn records.

Shoveler *A. clypeata* Maxima were 32 at Barkers Lane during August and 79 at Dunstable SW and 18 at Blunham L during December. Records were received from ten other sites but no other count exceeded 16. Bred successfully at Houghton Regis CHP with five juveniles seen in August, and at South Mills GP where a duck and 11 young were seen in May.

Red-crested Pochard *Netta rufina* Single drake Brogborough L 22nd January (AT).

Pochard *Aythya ferina* A similar pattern to 1983 with impressive build-up at Brogborough L during the autumn. 385 were present on 14th September, 460 on 24th and then peaking at 630 on 25th September, with 420 in October staying at this level through November. Elsewhere the highest counts were 162 during January and 208 in September at Blunham L, 127 in January and 140 in December at Stewartby L and 136 in September at Radwell GP. No breeding records this year.

Tufted Duck *A. fuligula* The largest numbers were to be seen at Brogborough L with 123 in February, 115 on 14th September, staying at this level until December when 240 were counted on 9th and a peak of 344 on 22nd. At Blunham L 156 were present on 19th January and then in November 108 on 29th with then 91 on 29th December. No other site held more than 54. Breeding records from five localities.

Common Scoter *Melanitta nigra* A good year with the first at Brogborough L 28th March, four at the same site 8th April with ten on Stewartby L the same day, three different birds there on 10th April, two on Brogborough L 11th April. A single Brogborough L 22nd and 25th April. In the autumn singles Stewartby L 5th September and again 5th October, and at Brogborough L singles from 13th to 23rd November and a different bird 13th to 28th December. (AT, DJO, CW *et al*).

Goldeneye *Bucephala clangula* Good numbers this year with reports from 15 sites. The highest counts were at Brogborough L with six on 8th January increasing to 11 on 15th, 14 on 12th February, 18 on 19th, 15 on 26th and then, in March, 16 on 1st, a peak of 23 on 6th, 15 on 15th with ten still present 1st April. In the second winter period seven on 18th November, 12 on 9th December and 13 on 23rd December. Good numbers also at Harrold CP with seven on 7th January, 12 on 28th January, 14 on 12th February with 16 on 19th, nine throughout March, 15 on 3rd April and still ten on 11th April. In the second winter period a peak of eight was reached 25th December. The latest to depart in spring were two at Radwell GP 21st April and the first to return was one at Brogborough L 27th October.

Smew *Mergus albellus* A "redhead" was seen at Radwell GP 22nd January and then presumably the same at Harrold CP from 28th January to 5th February, Brogborough L from 18th to 20th February, Millbrook CLP 3rd March, Brogborough No. 2 CLP 18th to 22nd March and finally Brogborough L 24th March (JN, DSW, BN *et al*).

Red-breasted Merganser *M. serrator* Single drake Stewartby L 8th April, a pair at the same site 11th April with a drake Brogborough L same date and finally a drake Stewartby L 3rd May (DJO, AT, MJP).

Goosander *M. merganser* Three at Woburn L 2nd January, with four there on 8th, and a drake at Stewartby L 7th January. There was an influx later in the month with a pair at Stewartby L on 22nd, staying until 16th February, two drakes and a duck at Radwell GP also 22nd, two on 28th, one on 29th staying until 31st January, two at Barkers Lane 24th, and a drake at Harrold CP on 28th. A drake at Radwell GP on 7th February, staying until 21st March, was joined by a pair on 19th February; a duck at Chimney Corner CLP 26th February stayed until 5th March, a duck at Brogborough L 6th March and finally, in the spring, one at Barkers Lane 9th April.

Fewer records in the second winter period with a drake at Brogborough L 18th November, two ducks Barkers Lane 27th November until the end of the year, a duck at Harrold CP 2nd December and a duck at Brogborough L 6th to 9th December. Although these dates suggest some duplication the records represent an excellent year.

- Ruddy Duck** *Oxyura jamaicensis* A drake was seen at Brogborough L 8th January, two immature birds at Stewartby L 12th February, two drakes Barkers Lane 15th May and a duck at the same site 29th November. A drake was at Brogborough L 26th October and an immature there on 25th November.
- Red Kite** *Milvus milvus* One flew south over Reddings Wood, Amptill on 17th December (DHB).
- Marsh Harrier** *Circus aeruginosus* An adult male at South Mills GP 4th May and then one high over The Lodge, Sandy 9th May (DJO, AC).
- Hen Harrier** *C. cyaneus* A ringtail near Shillington on 24th January was relocated at Knocking Hoe on 4th February where it stayed until 7th. Another ringtail was seen at The Lodge, Sandy 12th November and perhaps it was the same near Cople 1st December (MC, AT, GM, DJO *et al.*).
- Goshawk** *Accipiter gentilis* One over Whipsnade Zoo on 26th June was only the fourth county record (CT).
- Sparrowhawk** *A. nisus* Bred successfully at one site, probably at another and unsuccessfully at a third. Altogether at least 14 pairs present during the summer. Throughout the year seen in 14 of the 10 km. squares in the county which is an increase over last year. Still no records however from SP96, TL06 and TL24.
- Buzzard** *Buteo buteo* Two stayed in the Southill Park — Warden Great Wood area from 1983 until 21st January. One over Ickwell 19th February was probably one of these birds and it was thought that two seen at Warden Great Wood on 10th and 11th June showed plumage details similar to the birds seen in January. One had returned to the Exeter Wood area in October where it stayed into December. Elsewhere one was seen near Battlesden L 22nd January and 21st October, Luton Hoo 1st April and Stotfold 27th October. One at The Lodge, Sandy 6th December was thought to be a possible escape.
- Osprey** *Pandion haliaetus* One first seen 30th September along R. Ivel, Henlow was relocated on 7th October at Langford Lakes. It stayed in the vicinity until at least 14th October (NP, AT, GG *et al.*). In spring one over Biggleswade Common 13th May (JRM).
- Merlin** *Falco columbarius* Singles Barkers Lane 4th February and Dunstable SW/Sewell 4th November (DK, PT)
- Hobby** *F. subbuteo* The first in spring was one at The Lodge, Sandy 22nd April. One pair bred raising at least one young; one or two juveniles were seen at a second site and at least three other pairs summered, with display and food passing between adults seen.
- Grey Partridge** *Perdix perdix* Recorded from 20 tetrads with none north of Bedford. At Totternhoe one observer recorded this species 17 times during the year compared with 26 sightings for Red-legged Partridge.
- Quail** *Coturnix coturnix* Two at Galley Hill 5th to 7th June, singles Stanbridgeford 11th to 13th June and by R. Ouse, Kempston 29th to 31st July (AT, BI, MJP *et al.*).
- Lady Amherst's Pheasant** *Chrysolophus amherstiae* Reports from Chicksands Wood (one), Kingshoe Wood (one), Maulden Woods (five), and Moneypot Hill (two). At the main breeding site in Charlewood the keepers reported an average breeding season with 15-20 young being raised. Unfortunately this area is being increasingly disturbed and is less suitable as the trees mature. Birds appear to be gradually moving to adjacent areas and six were seen in nearby Lowe's Wood in January.
- Water Rail** *Rallus aquaticus* Reports from ten localities during the winter. An absence of records from Flitwick Moor is almost certainly due to lack of observer coverage as birds were present at the start of 1985.
- Corncrake** *Crex crex* One near Marston Moretaine 30th May stayed to at least 11th June. This was the first record in the county since 1974 (MG, MJP, DHB *et al.*).
- Moorhen** *Gallinula chloropus* Typically Luton Hoo provided the highest counts with maxima of 150 in January and 115 in December.
- Coot** *Fulica atra* Good numbers with 292 at Chimney Corner CLP 14th January, and 288 at Radwell GP and 420 at Harrold CP both on 14th October. As in 1983 particularly impressive numbers at Brogborough L with 1200 on 2nd January, and then 689 on 14th September, 1487 on 18th November and 1395 on 28th December.

- Oystercatcher** *Haematopus ostralegus* Typically a wide scatter of dates with singles Brogborough L 13th March, Stewartby L 8th April, another between 20th and 22nd April, Barkers Lane 18th May, Brogborough L 1st June, Stewartby L 8th August, ten over R. Ouse near Felmersham 16th August and a single Harrold CP 16th and 21st September.
- Avocet** *Recurvirostra avosetta* Two at South Mills GP 19th April and eight at Vicarage Farm CLP 18th November (PO, JP, DK *et al*). These were the fourth and fifth county records.
- Little Ringed Plover** *Charadrius dubius* Passage was widespread but never more than four at any one site. The first was at Barkers Lane 20th March followed by one at Houghton Regis CHP 22nd March. Between nine and 11 pairs at seven sites bred or attempted to breed raising at least six young. Birds were present at another six localities during the summer but with no evidence of breeding activity.
- Ringed Plover** *C. hiaticula* Subsequent to the comment in the 1983 Bird Report a belated record for 1983 was received of two or three pairs breeding at one site.
In 1984 records from three sites in February, with no more than two together, a trickle in the first half of March at six sites, with a maximum of three together, and then a widespread passage noted around 21st March with birds appearing at nine sites with a maximum of five together at South Mills GP and four at Harrold CP. Passage continued into April with the highest count of eight at Stewartby L on 5th. From mid-May until end July reported from ten localities with a total of 18 pairs possibly involved. However, breeding activity was only noted from three sites. At the first between four and six pairs bred, at a second a pair was seen displaying and at the third two pairs were seen displaying. After August reports thinned out with only singles at South Mills GP end September and Harrold CP 12th November.
- Golden Plover** *Pluvialis apricaria* In the first winter period good counts at Old Rowney Farm (115), Biggleswade Common (100+), Cardington airfield (100+) and Cuckoo Bridge GP (120). A strong passage of returning birds from the south was evident at the end of March with 3 - 400 at Everton on 30th and then 150 at Cardington 7th April. The first in autumn were four at Cardington airfield 2nd September with nine over Whipsnade Zoo the next day. By the year end 113 had been reported from near Broom, 100+ at Kempston, 110 at Elstow, a conservative 700 at Henlow airfield 22nd December and 527 on Cardington airfield on 27th.
- Grey Plover** *P. squatarola* Singles Harrold CP 25th August and Stewartby L 16th December (DSW, DJO, MJP).
- Lapwing** *Vanellus vanellus* Hard weather movements noted on 22nd January with 78 over Flitwick Moor, and at Barkers Lane with 1035 moving south west in two hours on the same day and then 1144 south in two hours 3rd March. Still in the first winter period 1500 were seen near Turvey in January and 1545 were counted in TL14 on 7th January. Towards the end of the year several large flocks had formed including 1100 near Astwick and 1000 at Copt Hall in November, and 1000 near Broom and 3000 at Tilsworth in December.
- Sanderling** *Calidris alba* Singles South Mills GP 3rd May, Harrold CP 12th May, Stewartby L 21st May and Harrold CP 25th August. A good year for this species. (MJP, DWS, AT).
- Little Stint** *C. minuta* Single record with one at Bedford SW 29th September (AT)
- Dunlin** *C. alpina* Singles in January at Barkers Lane on 26th and South Mills GP 28th. No records for February but a passage of up to 16 birds during March at seven sites with a maximum of four on 17th at Radwell GP, and then again in April with a total of 18 birds at six sites. Eight of these were at Stewartby L on 8th. The last in spring was one at Harrold CP on 2nd June. Autumn passage was light, with ten birds at five sites, lasting between 14th July and 26th August. Finally there were November and December records from Radwell GP and Harrold CP.
- Ruff** *Philomachus pugnax* Single Barkers Lane/Fenlake 8th to 27th January. Light spring passage from 9th April to 6th May with records from South Mills GP, Harrold CP and Houghton Regis CHP, and then in August from South Mills GP from 13th to 26th with a maximum of three on 22nd. One at Barkers Lane/Bedford SW from 28th August to 10th September. Single Bedford SW 6th October and lastly one at Radwell GP 2nd December.
- Jack Snipe** *Lymnocyptes minimus* Maximum of three at Houghton Regis CHP during the first



Bar-tailed Godwits at Stewartby L. in May.

(Photo: Andy Tomczynski)

winter period; at Barkers Lane single present from 8th January to 7th April with two on 24th March; up to three at South Mills GP from 22nd January until 11th May - a late date for this species, and singles in March at Harrold CP and Whipsnade Zoo. First in autumn were two at Houghton Regis CHP 1st October, with then up to two at Radwell GP between 9th and 26th December, up to two at Barkers Lane 7th to 14th December and a single at South Mills GP 27th October.

Snipe *Gallinago gallinago* Drumming was heard at Harrold CP 30th March, Biggleswade Common 13th May and South Mills GP 24th June. Two pairs bred in Houghton Regis CHP and breeding probably took place near to The Lodge, Sandy. Good numbers in the first winter period particularly at Fenlake, with 372 on 24th February with high counts made until mid-March, Radwell GP with good numbers mid to end March peaking at 150 on 30th, and at South Mills GP with 113 on 4th February.

Woodcock *Scolopax rusticola* Roding noted at 12 sites. Migrants on Blows Downs 5th April and Whipsnade Zoo in January and some evidence of a late winter influx with birds at Blunham, Kings Wood, Stanbridge Wood and The Lodge, Sandy.

Black-tailed Godwit *Limosa limosa* Single Chimney Corner CLP 28th April (AT).

Bar-tailed Godwit *L. lapponica* An unprecedented influx started on 28th April with three at Radwell GP and two at Chimney Corner CLP. One of the Radwell birds stayed until 2nd May, and a new bird arrived at Blunham L 30th April. Single Chimney Corner CLP 2nd to 3rd May, another on 5th May, and two on 6th. Three over Barkers Lane on 3rd May, three at Stewartby L on 10th with two staying until 13th, and finally one at Barkers Lane 19th May.

- Whimbrel** *Numenius phaeopus* Good passage with single Radwell GP 21st April, three Barkers Lane 24th, two Houghton Regis CHP 28th and one at Stewartby L on 29th April. Three near Barton 6th May and one over The Lodge, Sandy the next day. During August single over Harrold CP on 11th, up to three over Everton at night on 19th and one over Barkers Lane 25th.
- Curlew** *N. arquata* Good passage in March with the first at The Lodge, Sandy on 4th and then singles at five sites with the last on 30th. In April, single Brogborough L on 14th and then six on 18th over Blows Downs and four on 21st. Singles Chimney Corner CLP 3rd May and Brogborough No. 2 CLP 21st June. In July singles Barkers Lane and Radwell GP on 1st, Harrold CP on 7th and 23rd, and in August two Barkers Lane on 5th and a single on 25th. In November singles Barkers Lane 13th and Stewartby L on 19th.
- Spotted Redshank** *Tringa erythropus* Single Radwell GP 28th April, four at Barkers Lane 30th April, two same site 12th August and a single at Dunstable SW 6th September.
- Redshank** *T. totanus* Breeding records from Houghton Regis CHP with five pairs and South Mills GP with at least three pairs. It is likely that this was the very minimum number of pairs breeding in the county as several records were received from other suitable habitats during May and June.
- First winter period reports from Radwell GP, South Mills GP and Blunham L. Spring arrival during March noted at 14 sites, with the highest being seven at Stewartby L and 14 at South Mills GP on 24th - 26th March, the maximum elsewhere being three. Passage continued during April with birds reported from 16 sites with a peak of 20 at South Mills GP on 18th. Few records after June with singles at Chimney Corner CLP and Battlesden L in July, Stewartby L during September and December, and Barkers Lane also December.
- Greenshank** *T. nebularia* In the spring singles Radwell GP 28th - 30th April, Chimney Corner CLP 28th April, two Houghton Regis CHP 3rd May with one staying until 13th May. Autumn passage first noted on 19th July at Brogborough No. 2 CLP peaking during mid-August with eight at the same site on 14th and eight at Bedford SW on 21st. Records from ten sites with the last, a late bird, at Stewartby L on 4th November.
- Green Sandpiper** *T. ochropus* Seen in every month of the year and particularly widespread from June to September, and again in November. Throughout the year recorded from 22 localities with a maximum count of six at Brogborough No. 2 CLP on 5th August, other records being mainly singles.
- Wood Sandpiper** *T. glareola* Good spring passage with singles Battlesden L 21st April, South Mills GP 27th April to 2nd May, with two on 3rd, singles Brogborough No. 2 CLP 10th to 13th May and Shuttleworth College L 19th May. Unusually no autumn records.
- Common Sandpiper** *Actitis hypoleucos* The first in spring was at Harrold CP on 14th April. Passage then lasted until 29th May, reported from 16 sites with a maximum of five on 30th April at Radwell GP. Autumn passage commenced on 7th July with birds at Harrold CP and Chimney Corner CLP and ended on 4th October. Noteworthy were counts made at Bedford SW during August with ten on 16th, 19 on 20th, 11 on 29th and seven on 30th. Finally a single winter record from Blunham L 2nd December.
- Turnstone** *Arenaria interpres* Good spring passage with singles Chimney Corner CLP 28th April, two Harrold CP 2nd May, single Brogborough No. 2 CLP 6th May, two different birds at Harrold CP 12th to 13th May, with one staying until 19th, and lastly a single at Brogborough L 21st May.
- Great Skua** *Stercorarius skua* One found at Stewartby L on 17th November stayed until 30th. This was the third county record and the first since 1969 (NL, MG, CW *et al*).
- Mediterranean Gull** *Larus melanocephalus* One at Brogborough No. 2 CLP on 29th March was the second county record (AT).
- Little Gull** *L. minutus* Exceptional spring passage. At Barkers Lane singles 21st to 27th April with two on 28th; at Stewartby L single 25th April, two on 29th, another on 30th, four new birds on 2nd May, nine on 3rd and one on 9th. At Chimney Corner CLP, two on 28th April and two at South Mills GP on 23rd May.
- In autumn singles Stewartby L 25th August and Barkers Lane 8th September, and then,



Turnstone at Brogborough No. 2 Pit in May

(Photo: Andy Tomczynski)

- unusually, winter records from Stewartby L on 9th November and 16th December (DHB, AT, MJP, DJO, PO *et al*).
- Black-headed Gull** *L. ridibundus* An immature bird found dead in Whipsnade Zoo on 26th August had been ringed as a nestling on 27th June at IJsselmeer Polders, Netherlands.
- Lesser Black-backed Gull** *L. fuscus* 600 Brogborough No. 2 CLP 2nd June and on 18th October roosts of 500 Stewartby L and 1000 Brogborough L.
- Glaucous Gull** *L. hyperboreus* A first winter bird stayed in the Brogborough area from 14th to 25th February (DHB, AT, BN *et al*) with probably a different individual at Stewartby L 30th March (MJP, DJO *et al*). A first winter bird Stewartby L 2nd November (DHB). This is a remarkable sequence considering that one in 1983 was only our third.
- Kittiwake** *Rissa tridactyla* An adult was found dead at Harrold CP 16th January (DSW), an adult at Brogborough L 22nd May and possibly the same on 1st June (AT).
- Sandwich Tern** *Sterna sandvicensis* A remarkable flock of eight at Radwell GP 28th April and then two at Barkers Lane 20th August (DSW, AT, DK *et al*).
- Common Tern** *S. hirundo* Heavy passage in both spring and autumn. The first was one at Barkers Lane 16th April followed by a strong movement at the end of the month, with 15-20 at Radwell GP on 28th and 15 at Stewartby L on 29th, where 22 were counted on 5th May. Another movement took place on 1st June with 14 at Brogborough L, 13 at Stewartby L and smaller numbers at several other localities. Autumn passage started in early August with 17 at Stewartby L on 3rd, 16 at the same site on 22nd and then in September nine at Barkers

Lane on 29th. The last was at Stewartby L 26th October.

Successful breeding took place at three localities with three broods raised at one site, three young raised at the second and success unknown at the third. Display and food carrying was observed at two more sites.

Arctic Tern *S. paradisaea* First was one at Stewartby L 19th April, followed by one at Radwell GP 22nd April and then two at Brogborough No. 2 CLP 26th April. Further passage in May with single Stewartby L 2nd to 3rd, three on 7th and one on 10th; at Barkers Lane three on 8th, singles Brogborough L and South Mills GP on 10th and Harrold CP with seven on 26th. Finally in spring five at Brogborough L 1st June. In autumn one at Stewartby L 19th July with two on 29th, and then in October three on 5th, single on 22nd to 26th. Single Blunham L 9th September.

Little Tern *S. albifrons* Two Stewartby L 22nd May and two Barkers Lane 17th July (DHB, AT, DK).

Black Tern *Chlidonias niger* Good movements noted, dates mainly coinciding with those of Common and Arctic Tern. First was at Barkers Lane 19th April, with two there on 21st, seven on 22nd, three at Radwell GP 21st, four at Brogborough L 23rd, five at Stewartby L 25th, and then on 30th five at Stewartby L and seven at Brogborough L. A steady trickle during early May at several sites and then eight on 22nd at Stewartby L and finally in spring two Stewartby L, one Brogborough L and one South Mills GP 1st June. Autumn passage commenced with five on 22nd July at Stewartby L, two on 5th August, single on 30th, five on 1st September with one remaining until 9th, one on 4th October and a very late bird 5th November. Four at Brogborough L on 28th October were also unusually late.

White-winged Black Tern *C. leucopterus* The record in 1983 has now been accepted by the British Birds Rarities Committee.

Stock Dove *Columba oenas* A flock of 3 - 400 at Turvey 7th January.

Woodpigeon *C. palumbus* 2,000 over East Hyde 12th February.

Collared Dove *Streptopelia decaocto* Roosts of note were 100 on Dunstable Downs during January and December, and 250 at Well Head, Totternhoe in November.

Turtle Dove *S. turtur* The first was at Barkers Lane 17th April, which was early, and the last migrant was at Totternhoe on 2nd October. An interesting record was one which overwintered with a flock of Collared Doves at Wilden, staying from November into February 1985. On a 200 acre CBC plot near Old Warden only five pairs bred, which with 1983 was the lowest since recording began in 1973 (maximum 30 pairs in 1975). At The Lodge, Sandy only five pairs bred which was the lowest population since 1970.

Ring-necked Parakeet *Psittacula krameri* One or possibly two near Pulloxhill mid- to end May and one which joined a Starling roost at Totternhoe from early August to at least mid-September.

Cuckoo *Cuculus canorus* The first spring arrivals were on 14th April at The Lodge, Sandy and Maulden Woods.

Barn Owl *Tyto alba* Two pairs definitely bred, with birds seen at three other sites during the summer. Sightings at a further eight locations were made during the winter. On 13th March an owl, apparently of this species, flew over the Luton Town football ground during a floodlit match.

Little Owl *Athene noctua* Reports from 23 localities during the summer and a further seven in the winter. This species seems to be holding its own, particularly in south and mid-Bedfordshire. For example four different birds were seen on 10th May by the roadside between South Mills and Maulden.

Long-eared Owl *Asio otus* One pair bred, raising two young, and an adult was seen at a second suitable breeding locality at the end of May. One was found dead on the road also near suitable breeding habitat. One on the outskirts of Luton 26th February.

Short-eared Owl *A. flammeus* Fewer records this year. Singles in January at South Mills GP on 28th and Tempsford airfield on 31st and again there on 26th February. A late spring bird was seen near Pegsdon 14th May. No further records were received until 19th November when one was seen near Sandy and then a small influx in December with singles Stewartby L on 2nd

- and 15th, Barkers Lane 7th and 30th and two Galley Hill from 8th to probably the year end.
- Nightjar** *Caprimulgus europaeus* A single pair observed feeding young in Wavendon Heath were the only birds reported although many other apparently suitable sites were visited but with negative results.
- Swift** *Apus apus* The first arrived on 26th April with 12 at Barkers Lane and a single at Everton. The main passage started around 5th May when 100 were seen at Barkers Lane. Large feeding concentrations were seen in early June with 350 Stewartby L and 200 Brogborough L on 1st, and 300 at Harrold CP on 2nd. The last was seen at Harlington on 29th September.
- Kingfisher** *Alcedo atthis* The increase continues with seven to eight pairs breeding, including two or three between Blunham and South Mills. Observed at another ten sites during the summer. Widely reported during the winter from another 15 sites.
- Wryneck** *Jynx torquilla* Singles Bidwell Hill 3rd May, which subsequently died, Luton 10th May, Potton 27th August and Southill Station 27th to 30th August (DF, RD, CV, SV *et al*).
- Lesser Spotted Woodpecker** *Dendrocopos minor* Recorded from 26 locations during the year, which is a large increase on 1983 due mainly to better observer coverage.
- Skylark** *Alauda arvensis* 2,000 at Thurleigh 24th January is noteworthy.
- Sand Martin** *Riparia riparia* The earliest was at Radwell GP 25th March and the last was at Blunham 3rd October.

Evidence of the dramatic national decline was seen in the county where at Radwell GP only 40-50 nest holes were used, compared with 200 in 1983, and at Grovebury Road SP where ten birds showing no signs of breeding compared with 120 nest holes in 1983, despite suitable habitat available. Passage numbers at Barkers Lane were estimated to be down by 90% with ten the largest flock seen prior to July. One observer at South Mills GP recorded this species only once in 12 visits during the summer. The decline was caused by the drought conditions in the Sahel, the main wintering area.

- Swallow** *Hirundo rustica* The first in spring was at Barkers Lane on 1st April and the last was at Totterhoe on 23rd October. A southerly movement was noted at Harrold CP on 13th September and on 16th when 250 went to roost there.
- House Martin** *Delichon urbica* The earliest was one at Barkers Lane 11th April and the last was at Stanbridge on 28th October. Interesting passage movements were noted with 100 at Stewartby L and 80 at Brogborough L on 27th May, with 300 at Harrold CP the next day. In the autumn 100 at Barkers Lane and 120 at The Lodge, Sandy 18th September and then 100 Stewartby L five days later.
- Tree Pipit** *Anthus trivialis* The first arrivals were on 14th April at Blows Downs and The Lodge, Sandy. Breeding records from a total of ten sites, mostly on the Greensand Ridge, including The Lodge, Sandy where six pairs bred, and where the last was seen on 3rd September.
- Meadow Pipit** *A. pratensis* Good numbers passing through Barkers Lane in early spring with 60 on 22nd March, 110 on 26th, 153 on 31st, 100 on 7th April and 150 on 10th April. Elsewhere 40 at Harrold CP 21st March with 100 there on 28th, 132 on Whipsnade Downs 31st March, 200 Radwell GP 1st April, 40 Stewartby L 2nd April and 150 Blows Downs 7th April.
- Rock Pipit** *A. spinoletta* Individuals showing the characteristics of the race *A. spinoletta spinoletta*, known as the **Water Pipit**, were seen at Stewartby L 15th April and Dunstable SW 4th November (BN, PT).
- Yellow Wagtail** *Motacilla flava* First in spring at Blows Downs 4th April and then a strong passage mid-April with 50 Stewartby L and 50 Radwell GP on 15th and 60 Barkers Lane on 16th. Further influx 18th May with 30 Stewartby L. In the autumn numbers started building up towards the end of July with 40 at Stewartby L on 25th and 69 on 30th, 40 at Grovebury Road SP 26th August and 100 at Harrold CP 16th September. The last were singles at Harrold CP and Barkers Lane on 1st October.
- A male showing characteristics of the race *M. flava thunbergi* known as the **Grey-headed Wagtail**, was found at Barkers Lane on 30th April, where it stayed until 14th May. (DJO, MJP, DK *et al*). The nearest this race normally breeds to us is Scandinavia and this was the first occurrence of this race in the county. Individuals showing characteristics of the race *M. flava flava* known as the **Blue-headed Wagtail** were seen at Radwell GP 2nd May, with

two at Stewartby L 18th May and a male at South Mills 30th April to 11th May. (DSW, BN, PO).

- Grey Wagtail** *M. cinerea* Increase in our breeding population with two pairs holding territory in Luton Hoo, pair present all summer at Stotfold, nest with five eggs found at Tempsford, three pairs between Blunham Twin Bridges and South Mills, and a pair nesting at Old Linslade. Widespread in both winter periods, mostly singles, but six at Stanbridgeford SW and three at Dunstable SW all on 14th September evidence of an autumn influx.
- Pied Wagtail** *M. alba* 200 in a feeding party at Leighton SW 1st February was unusual. Birds of the continental race *M. alba alba*, known as the **White Wagtail**, were seen at Stewartby L between 24th and 30th March and again 16th to 19th April, at Barkers Lane between 7th and 19th April with three on 15th and a single on 5th May, at Radwell GP on 25th March, 12th and 22nd April and Blunham on 25th March.
- Wren** *Troglodytes troglodytes* Increase in the breeding population. On a 200 acre CBC plot near Old Warden pairs increased from 40 in 1983 to 47 (but still below 1975 level of 89). At The Lodge, Sandy 61 pairs were present, the most successful year yet.
- Robin** *Erithacus rubecula* The breeding population on a 200 acre CBC plot near Old Warden increased from 27 pairs in 1983 to 44, and was the highest since 1975.
- Nightingale** *Luscinia megarhynchos* A total of ten singing males were heard at six sites with the first arrival on 17th April at Marston Thrift, which was early. Singles Blows Downs 4th May and at Biggleswade Common 5th May were probably passage birds as was a juvenile at Harrold CP 27th August.
- Black Redstart** *Phoenicurus ochruros* Single Harrold CP 25th and 26th February. Good passage in April with singles at Sandy on 1st, Whipsnade Zoo 2nd to 6th, with two on 7th, singles Houghton Regis CHP on 3rd, Dunstable on 4th, Blows Downs and Colmsworth on 12th and Whipsnade Downs on 15th.
- Redstart** *P. phoenicurus* Only one breeding pair present in the county, at Wavendon Heath, which was disappointing after the increase in 1983, and is against the national trend.
Notable passage in April, particularly on Blows Downs with three on 14th, four on 16th, six to eight on 17th, three on 18th and one on 22nd. Elsewhere singles Barkers Lane 15th April, Marston Thrift 17th, Stewartby L 18th, Luton 22nd April and lastly The Lodge, Sandy between 9th and 19th May. In autumn singles Whipsnade Zoo 7th to 9th September, Sandy 2nd September and one found dead Whipsnade Zoo 6th October.
- Whinchat** *Saxicola rubetra* Strong spring passage with the first on Blows Downs 14th April, increasing to three on 22nd, a pair then staying on until mid-May. Between 16th and 30th April records from six other sites, mainly singles, and then a second movement in May at a further six sites with birds lingering on until 24th May, but with no evidence of breeding. In autumn, passage started on 23rd July at Dunstable SW lasting until 20th September with a peak of five on 6th September. On Blows Downs passage lasted from 20th August to 16th September with a maximum of six. Records from another six sites with the last near Totternhoe 7th October.
- Stonechat** *S. torquata* Good numbers in both winter periods. At Harrold CP three on 12th January, singles 17th January and 12th February, and two on 19th February staying until 5th March. A single here from 22nd October until 25th December was ringed and found to be one of the pair present here in February. Elsewhere in the first winter period singles seen at Bedford SW, South Mills GP, Dunstable SW, Blows Downs, Stewartby L and Barkers Lane. In the second winter period from Bedford Town, Dunstable SW, Water End Renhold and South Mills GP.
- Wheatear** *Oenanthe oenanthe* A pair bred in Houghton Regis CHP and a bird seen on Warden Hill on 5th June was in suitable breeding habitat.
The first spring arrival was in Houghton Regis CHP 22nd March with another on Blows Downs the next day. At this last site passage was reported daily until the end of April with a peak on 15th of 25. One at Harrold CP on 12th April was possibly of the Greenland race. Return passage started on 5th August and was reported at 11 sites with the last, a late bird, in Brogborough No. 2 CLP 20th October.

- Ring Ouzel** *Turdus torquatus* Good passage on Blows Downs, birds being seen each day between 10th April and 4th May, peaking on 19th April when seven were seen. Elsewhere seen on Biggleswade Common 7th to 8th April, Whipsnade Downs between 15th and 21st April, with at least three birds involved, Barkers Lane with a single 25th April and Houghton Regis CHP 26th April. In May single by R. Ouse, Kempston on 2nd with two on 3rd, one remaining until 9th, one at South Mills GP on 11th and one at Blunham on 14th. Typically in autumn only one seen, at Harrold CP 27th August.
- Fieldfare** *T. pilaris* Impressive cold weather movement on 22nd January with 810 at The Lodge, Sandy, 318 at Barkers Lane, 250 Everton, "very heavy movement south all day" over Carlton and "large movement to west all day" over Amptill/Brogborough area. A roost of 300 was estimated at Harrold CP on 13th February and returning flocks of 500 were seen at Totternhoe 8th March and Sewell 23rd March. There were several April and early May records and the last were two stragglers near Totternhoe 18th May. The first to return in autumn was one exceptionally early individual by R. Ouse, Kempston on 9th August with the next not until 6th October at Barkers Lane. Influx at end of year with 400 at Brogborough L and 200 Chimney Corner CLP 30th December.
- Song Thrush** *T. philomelos* Breeding population on a 200 acre CBC plot near Old Warden was 15 pairs, remaining static since 1980 (41 pairs in 1974 and 46 in 1975).
- Redwing** *T. iliacus* Late spring passage of 300 over Blows Downs 27th March. The last to depart was one at Barkers Lane on 11th May, a site which recorded the first to return on 25th September. Impressive movement on 6th October with 700 south west in 90 minutes over Barkers Lane, 200 west over Linslade, parties of 30-40 over Everton moving south to south west all day and night, and the first of the autumn for The Lodge, Sandy and Whipsnade Zoo.
- Grasshopper Warbler** *Locustella naevia* 14 males singing at eight sites was a very low count, and continues the decline seen in recent years.
- Sedge Warbler** *Acrocephalus schoenobaenus* First in spring was at Barkers Lane 15th April, where 22 pairs were established during the breeding season. The last was one at Bedford SW 29th September.
- Reed Warbler** *A. scirpaceus* The first in spring were at Harrold CP and Brogborough L on 22nd April equalling the earliest ever. The last was one at Barkers Lane 6th October. Reports from eight sites in summer with the largest colony, 18, at Brogborough L.
- Lesser Whitethroat** *Sylvia curruca* The first were on 21st April at Radwell GP and Blows Downs, and the last Barkers Lane 24th September.
- Whitethroat** *S. communis* The first were on 19th April at Totternhoe and Barkers Lane, and the last were two The Lodge, Sandy 21st September. On a 200 acre CBC plot at Old Warden the breeding population of five pairs is still only half the 1980-81 level.
- Garden Warbler** *S. borin* On a 200 acre CBC plot near Old Warden the breeding population increased to ten pairs, the highest since 1973 when coverage started. The first was seen at this site 22nd April and the last 22nd September at Barkers Lane.
- Blackcap** *S. atricapilla* At The Lodge, Sandy 15 pairs bred, a record high, and continues the recent upward trend at this site, which also recorded the first in spring on 16th April, when there was also one at Brogborough L. One on 9th October at The Lodge, Sandy was the last probable migrant.
- Wintering records from Maulden 21st January, Dunstable from 27th February to 5th March, Maulden 24th November, Shefford 10th December and The Lodge, Sandy 11th December.
- Wood Warbler** *Phylloscopus sibilatrix* Single birds singing in suitable breeding habitat in Dungee Wood and Odell Plantation. Heard on one date only in Charlewood and thought not to have bred at this previously regular site. Migrants The Lodge, Sandy, Old Warden and Southill Estate between 9th and 19th May and two The Lodge, Sandy 2nd September.
- Chiffchaff** *P. collybita* The first in spring was at Blunham 25th March which was late, and the last probable migrant was at The Lodge, Sandy 9th October. Good numbers of wintering birds with two at Stewartby L 20th November, three at The Lodge, Sandy 28th November, with

one or two between 11th and 18th December, one Twin Bridges, Blunham 6th December with two there on 15th.

At The Lodge, Sandy only three breeding pairs, compared with 46 pairs of Willow Warbler, and on 200 acres near Old Warden only four pairs compared with 11 in 1980.

- Willow Warbler** *P. trochilus* The first were three at Harrold CP and a single Barkers Lane 7th April. Large influx on 17th April with 50 Barkers Lane, 32 along a 200 yard stretch by Stewartby L, 20 in a concentrated area at Brogborough L, and then 32 on Blows Downs on 20th April. The last was a very late bird at Blunham 10th November. The breeding level appeared to be stable.
- Goldcrest** *Regulus regulus* An indication of an increase in the breeding population was eight pairs breeding in 200 acres near Old Warden, the highest level since 1975.
- Firecrest** *R. ignicapillus* A male was found at The Lodge, Sandy on 1st May with a female arriving about three weeks later. The male was seen carrying food in July and removing faecal sacs. The nest was in a Douglas Fir and at least three juveniles fledged on 16th July, with the birds last seen on 19th July. This was the first proven breeding record in the county. (GM, IKD, MJP *et al*). Elsewhere a migrant was seen on Blows Downs 11th to 12th April (PT) and at least two were seen in Aspley Heath 15th May (WRT).
- Spotted Flycatcher** *Muscicapa striata* The first were two on Sundon Hills 30th April. A small influx took place on 20th May with six at Rushmere and on 25th May with eight on Blows Downs. A remarkable concentration of at least 25 were counted in Luton Hoo on 1st July but generally the breeding population was down, with only one pair in 200 acres near Old Warden, the lowest since 1973 when recording on this site began.
- Pied Flycatcher** *Ficedula hypoleuca* Spring influxes have recently become a regular feature. Singles Barkers Lane and Stotfold 18th April, two on Blows Downs 20th to 22nd April and single Luton Hoo 7th May. In the autumn singles The Lodge, Sandy 13th to 15th August, Barkers Lane 21st September and Houghton Regis CHP 29th September.
- Bearded Tit** *Panurus biarmicus* This species has been recorded in the county for each of the last six years, two at Harrold CP on 2nd November continuing this trend (AT).
- Long-tailed Tit** *Aegithalos caudatus* Only two pairs bred at The Lodge, Sandy, the lowest level since 1966.
- Marsh Tit** *Parus palustris* Eight pairs bred in 200 acres near Old Warden the highest since recording began in 1973.
- Willow Tit** *P. montanus* Recorded from a variety of habitats, a total of 19 localities.
- Coal Tit** *P. ater* 19 pairs nested at The Lodge, Sandy, the second highest ever (22 pairs in 1977).
- Blue Tit** *P. caeruleus* The breeding population increased, with 32 pairs in 200 acres near Old Warden (26 pairs in 1983), and 37 pairs at The Lodge, Sandy which was the second best season.
- Great Tit** *P. major* 21 pairs in 200 acres near Old Warden and 29 pairs at The Lodge, Sandy were the highest recorded at both sites.
- Nuthatch** *Sitta europaea* The decline in 200 acres near Old Warden continues, from nine pairs in 1981, five in 1983 to four in 1984.
- Treecreeper** *Certhia familiaris* In contrast to the previous species seven pairs on the same site was the highest level since recording began in 1973.
- Great Grey Shrike** *Lanius excubitor* The bird which first arrived at Barkers Lane in November 1983 stayed until 4th April (DK *et al*). One at the The Lodge, Sandy 24th October (GM).
- Jay** *Garrulus glandarius* One, which was completely white, except for black tips to the primaries, was seen at Turvey 15th April.
- Magpie** *Pica pica* This species continues to become more widespread. On a 200 acre kept plot near Old Warden, from an absence in 1979, this species increased to five pairs in 1984. The roost on Dunstable Downs has also increased, with up to 150 present during both winter periods.
- Starling** *Sturnus vulgaris* A fawn and white bird was present at Whipsnade Zoo all year.
- Tree Sparrow** *Passer montanus* Winter flocks of 100 were seen on Sundon rubbish tip in January and at Stanbridgeford SW in March. Evidence of a decline seen at The Lodge, Sandy

where only two pairs bred (from a peak of 85 pairs in 1975), and at Old Warden where again just two pairs bred (from a high of 21 pairs in 1975).

Chaffinch *Fringilla coelebs* A flock of 150 were seen on Sundon rubbish tip in January.

Brambling *F. montifringilla* Although reports were received from 19 sites during the first winter period the only notable flocks were 50 at Everton, up to 40 at The Lodge, Sandy and 20 at Blunham, all in January. Some evidence of return passage during early March from five sites, with a maximum of 20 on 4th March near Biggleswade, and again in mid-April from eight sites with a maximum of seven on 15th April in Luton Hoo. Some late stragglers included singles at Barkers Lane 27th April and The Lodge, Sandy 3rd May. During the second winter period only three records, all in November, at The Lodge, Sandy, Sewell Cutting and Whipsnade Zoo.

Serin *Serinus serinus* A first year female, caught and killed by a cat in Biggleswade on 20th February was the first record for the county. The specimen is with Bedford Museum (JG, JT).

Greenfinch *Carduelis chloris* The breeding population in 200 acres near Old Warden was, with six pairs the lowest since coverage started in 1973. The peak was 26 pairs in 1975.

Goldfinch *C. carduelis* A flock of 80 at roost Maulden Woods 26th April.

Siskin *C. spinus* Reported from 16 sites during the first winter period and early spring. Significant flocks included 45 at Tingrith 2nd January, 40 at Eversholt L 22nd January increasing to 50 by 10th March and 38 in Swiss Gardens, Old Warden 29th January. A pair was displaying near Old Warden on 8th April but were not seen subsequently, and one was in song at The Lodge, Sandy 1st May. The first in autumn were 25 in a Maulden garden 29th September followed by a single at The Lodge, Sandy on 1st October. A single there on 13th November, 25 on 16th and up to 70 by late November, when there were "several" at Pottton. Small numbers were seen regularly at The Lodge, Sandy during December but there were no records from any other site during this period.

Twite *C. flavirostris* Two were seen near Houghton Park Farm, Ampthill 2nd January (PS).

Redpoll *C. flammea* The only significant flocks were 70 Shire Oak 8th January, and between 80 - 100 at the same site 19th February.

Crossbill *Loxia curvirostra* Single male Breakheart Hill 23rd April and between one and seven at The Lodge, Sandy between 23rd April and 8th May, increasing to 42 on 10th, with 20 on 13th May. Elsewhere one singing male Whipsnade Zoo 5th May.

Bullfinch *Pyrrhula pyrrhula* A flock of 20 at The Lodge, Sandy 22nd December was unusual.

Hawfinch *Coccothraustes coccothraustes* A pair raised young in Bush Wood and two pairs were present near Old Warden in May. A pair was watched in Maulden Woods between 23rd April and 4th May and lastly two were seen at The Lodge, Sandy 7th July.

Yellowhammer *Emberiza citrinella* Impressive flock at Barkers Lane during the winter with 110 on 24th January, 150 on 26th, 100 on 31st, 140 on 4th February and 93 on 16th February. At least 100 Dunstable SW 13th March.

Corn Bunting *Miliaria calandra* Summer reports from nine localities but as a breeding species is undoubtedly under recorded. During the winter, flocks of 50 at Brogborough L in February and 57 Stewartby Turn in December.

ESCAPES

Bar-headed Goose Single Harrold CP 10th June and 29th September.

Snow Goose Single, associating with Canada Geese, Woburn L 15th January, Millbrook CLP 22nd January and Brogborough L 10th to 12th September.

Canada Goose A single of the small race *Branta canadensis minima* at Brogborough L 9th March associated with its larger congeners. Interestingly, probably this same bird was seen on 15th April at Willen L, Bucks indicating a movement of Canada Geese between these sites.

Barnacle Goose Single birds, presumably all escapes, were present in the Harrold/Radwell area for most of the year, Stewartby L and Millbrook in May and July, and Brogborough L during September and October.

BARRY NIGHTINGALE

BIRD RINGING REPORTby **D.S. Woodhead**

The year proved to be a disappointing one as far as total numbers ringed was concerned. A total of 2540 birds were ringed of 66 species. The drought in certain areas of Africa caused a crash in the population of some migrants, in particular the Sand Martin, and to a lesser extent in other species. Sand Martins have always figured highly in past ringing reports, and the drop from 819 ringed in 1983 to a meagre 74 last year reflects the drastic population change. Most Beds colonies showed very low numbers, if any at all, and the situation was the same over most of the country.

As usual the more interesting recoveries have been printed. There were only two foreign recoveries both of Pochard, one to Switzerland and GK6660 to Sweden which was only the fifth Pochard from the Fenno-Scandia region. Recoveries of note from the summer visitors include the Swallow C070110 which was controlled at Landguard Point and the House Martin B948430 controlled at St. Albans Head, Dorset. Both these birds must have been about to leave the country, the Swallow in an easterly direction and the House Martin southerly. The most interesting recovery is of the Nightingale NE83420 which was originally ringed at Odell Woods in 1981. It returned to the same territory in the next two years and was on its way back in 1984 when it met an unfortunate death in Crawley, Sussex, being killed by a cat. The Puffin EK37736 which was found freshly dead at Woburn was a result of large Auk wreck which occurred in February-March.

A recovery does not necessarily have to be long distance in order to prove valuable. The Barn Owl recovery is a typical owl death found by the AI, 17Km from its place of ringing at Willington Dovecote. The habit of Barn Owls feeding by roadsides unfortunately often results in this type of death.

In a continuing study of the Geese population in the north of the county, 85 birds were ringed and 15 birds were re-trapped from the previous year. Fewer recoveries were received last year and none were over 25Km. Greylag Geese are particularly difficult to catch and we have now become the most successful group in the country.

RINGING TOTALS FOR 1984

Mute Swan	2	Skylark	5	Blackcap	64
Greylag Goose	38	Sand Martin	74	Chiffchaff	18
Canada Goose	47	Swallow	435	Willow Warbler	298
Teal	1	House Martin	22	Goldcrest	3
Mallard	1	Meadow Pipit	12	Spotted Flycatcher	3
Sparrowhawk	1	Yellow Wagtail	3	Long-tailed Tit	40
Red Legged Partridge	1	Pied Wagtail	1	Marsh Tit	5
Ringed Plover	9	Wren	49	Willow Tit	15
Lapwing	21	Dunnock	69	Coal Tit	1
Dunlin	1	Robin	48	Blue Tit	124
Jack Snipe	2	Nightingale	8	Great Tit	70
Snipe	4	Redstart	1	Treecreeper	3
Redshank	12	Stonechat	1	Starling	16
Common Tern	2	Blackbird	104	Tree Sparrow	9
Collared Dove	2	Fieldfare	9	Chaffinch	27
Cuckoo	2	Song Thrush	67	Greenfinch	58
Barn Owl	2	Redwing	2	Goldfinch	16
Little Owl	1	Sedge Warbler	165	Linnets	9
Swift	63	Reed Warbler	140	Redpoll	27
Kingfisher	1	Lesser Whitethroat	51	Bullfinch	53
Great Spotted Woodpecker	2	Whitethroat	15	Yellowhammer	6
Lesser Spotted Woodpecker	1	Garden Warbler	75	Reed Bunting	101

ACKNOWLEDGEMENTS I would like to thank the following ringers who are active in the county for the provision of their records. P. Copestake, M. Fitzpatrick, E.C.B. Newman, P.J. Wilkinson, M.A. Woodhead.

Address: 79, The Moor, Carlton, Bedford MK43 7JS

species	RINGING DETAILS					RECOVERY DETAILS				
	ring number	age code	sex	date	location	date	location	recovery manner	distance km	direction
Teal	EH77067	3	♂	21.10.81	Harrold G.P.	22.1.84	Geashill, Offaly, Eire	+	465	W
Pochard	GK96660	4	♂	23.12.79	Blunham	17.9.83	Gryt, Sweden	+	1280	ENE
	GJ18317	2	♀	20.12.81	Blunham	10.2.83	Mannenbach, Switzerland	X	833	SE
Tufted Duck	FV27368	5	♂	1.3.78	Deeping St. James, Lincs.	15.1.84	nr Carlton, Beds.	+	59	SW
Puffin	EK37736	1		28.7.82	Sule Skerry, Orkney	17.2.83	Woburn	X	822	SSE
Barn Owl	GK82205	1		23.6.83	Willington	5.1.84	A1, 40 miles N. of London	X	17	SE
Sand Martin	B710733	3	J	31.7.83	Radwell G.P.	14.9.84	Higham, Rochester, Kent	V	109	SSE
Swallow	C070110	3	J	17.9.83	Girtford	8.9.84	Longard Point, Felixstowe, Suffolk	V	114	ESE
	B524351	1		11.7.84	Cople	19.8.84	Church Milne, Draycott, Derbyshire	V	102	NW
House Martin	B948430	4		27.5.84	Harrold G.P.	15.9.84	St. Albans Head, Dorset	V	206	SSE
Dunnock	B333090	3		3.10.81	Harrold G.P.	22.4.84	Bedford	X	10	SSE
	NE83420	4	♂	8.5.81	Odell Woods	31.5.82	Odell Woods	V	-	-
Sedge Warbler	B660129	4	♀	24.4.83	Rye Meads SF, Herts	14.4.84	Crawley, Sussex	X	126	S
	IJ8688	3		9.9.83	Watlington Hill, Oxfordshire	23.4.84	Girtford	V	45	NNW
Willow Warbler	XK97006	4	♂	26.12.81	Carlton	5.5.84	Harrold G.P.	V	69	NE
Starling	XE80864	2	♀	29.12.78	Carlton	5.10.84	Coggeshall, Essex	X	95	SE
	NK82104	6	♂	21.1.83	Higher Metcombe, Ottery St. Mary, Devon	7.2.84	Boxted, Colchester, Essex	X	106	SE
Greenfinch	NK82104	6	♂	21.1.83	Higher Metcombe, Ottery St. Mary, Devon	5.5.83	Harrold GP	V	252	NE

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

Sex: ♂ male
 ♀ female

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

Table. Details of selected ringing and recovery records.

REPTILES AND AMPHIBIANS

Report of the Recorder

Included in this year's report are the distribution maps for all the species. A comparison may be made with those published with the report for 1980 (*Bedf. Nat.* 35 27).

AMPHIBIANS

Common Frog *Rana temporaria* There were 16 reported sightings in 1984 and I also received some older records from Beryl Rands for 1982 and 1983. Four of the records were in new tetrads: 1 from V. Arnold, 3 from Beryl Rands.

Common Toad *Bufo bufo* There were 7 toad records for 1984. One from Houghton Regis Chalk Pit being a new tetrad record. Three of the others were from sites in Whipsnade. Beryl Rands also provided some older records, 3 of these filling in previously unrecorded tetrads.

Smooth Newt *Triturus vulgaris* There were 6 records of smooth newt in 1984, 3 in new tetrads.

Great Crested Newt *Triturus cristatus* The only record of these newts in 1984 was at Houghton Regis Chalk pit TL 02B.

REPTILES

Slow Worm *Anguis fragilis* Cliff Tack reported that the colony at Whipsnade was still thriving. Another report came via R. Brind at Bedford Museum that slow worms were seen regularly at Heath and Reach and Mr P. Trodd told me of one seen basking on Blows Downs.

Viviparous Lizard *Lacerta vivipara* One record was received via R. Brind of a lizard at Felmersham.

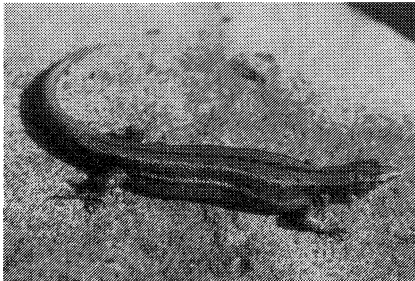
Adder *Vipera berus* No adder records were received in 1984.

Grass Snake *Natrix natrix* At the end of April 1984, 2 boys found a young grass snake dead in a garden at Box End Road, Kempston. They took it to Bedford Museum. Rosemary Brind thought the local press might be interested and that it might provide one or two further records. It did, for during the summer, both Rosemary and I received several records. In all there were 14 records, of these, 3 were from Putnoe Wood where Mr G. Hooper has seen one in 1983. Two at Turvey, 2 at Blunham, 2 at Riseley and 1 each at Felmersham, Clapham, Oakley and Tyne Crescent, Bedford plus the Kempston one which started the proceedings. Matthew Arnold provided one further record which was of a repeat sighting of one at Luton.

ACKNOWLEDGEMENTS

I would like to thank everyone who provided me with records.

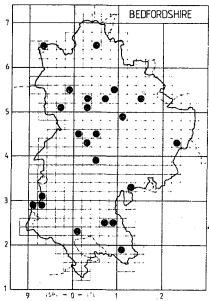
HELEN M. MUIR-HOWIE



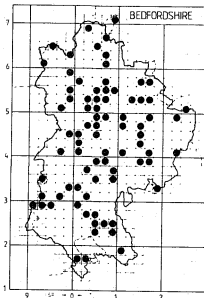
Viviparous Lizard
Lacerta vivipara



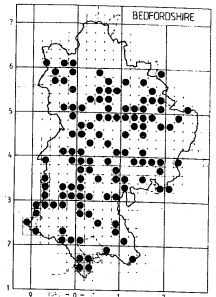
Grass Snake
Natrix natrix
(Photos: Derek Rands)



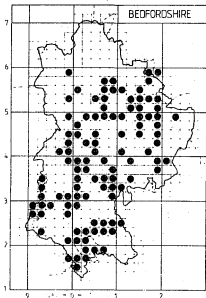
Great Crested Newt
Triturus cristatus



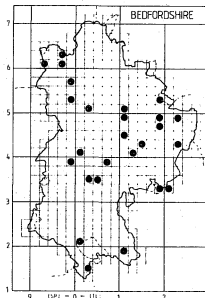
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Triturus vulgaris



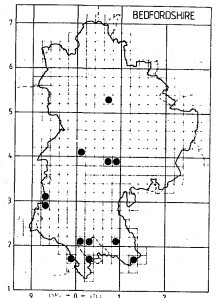
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Bufo bufo



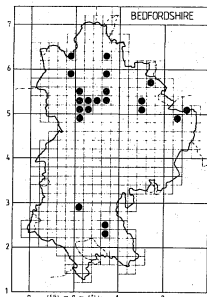
Common Frog
Rana temporaria



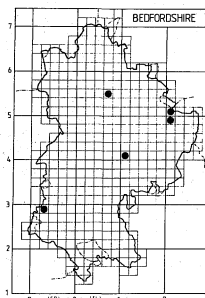
Viviparous Lizard
Lacerta vivipara



Slow Worm
Anguis fragilis



Grass Snake
Natrix natrix



Adder
Viper berus

*Distribution maps of Reptiles
and Amphibians*

FISH Report of the Recorder

Last year's Fish Report (*Bedf. Nat.* 38:39-41) made considerable use of detailed fishery surveys kindly supplied to us by the Anglian Water Authority, which included a report of the Great Ouse downstream of Bedford from Fenlake to Wyboston. It was stated that the AWA intended "to survey the river upstream of Bedford in 1984 and have promised to send me a copy of the report." However, excessive weed growth prevented this being carried out and the work is now planned for spring 1985. Therefore, with luck, we shall publish the relevant information in next year's Fish Report.

Again, I must express my gratitude to the AWA for sending me copies of further surveys relating to the River Ouzel and the Grand Union Canal, from which I have been able to extract 7 new county tetrad records and a great deal of valuable information regarding the relative abundance of the various species found in those sections of the sites which fall within the boundaries of Bedfordshire.

Once more I have been able to produce graphs showing the comparative abundance per species represented as a percentage of the total number of fish taken from each location. However, things are not quite so straightforward as they were in 1983. This is because the sites surveyed last year fell either entirely or largely within Bedfordshire. Therefore, the overall information was relevant to the county as a whole. But this year only very small sections of the two sites under consideration fall within our county, and the following information pertains only to these locations — thus it must be considered more limited in its scope. Please note that these factors not only apply to details about comparative abundance, but also each species' contribution to the mean biomass.

Another point worth bearing in mind in relation to these surveys is the fact that the methods of sampling include both electro-fishing and netting. In the case of the latter, many of the "smaller" species will simply slip through the mesh and will not be discovered. Even when they are discovered, they are simply noted as being present and are not sampled quantitatively on every occasion.

Having clarified the limitations, let us look first at the comparative abundance per species in the section of the River Ouzel surveyed from Billington to Grange Mill at Heath and Reach, Fig. 1. Roach are the most numerically abundant species accounting for a massive 88% of the total, followed by Gudgeon (5%), Pike (4%), Rudd (1%) and Perch (1%). The "others" mentioned are those species whose individual scores came to less than 1%, and in this case they are Carp (0.5%) and Stone Loach (0.5%).

Roach were also the most dominant species by weight accounting for 71% of the mean biomass in the Bedfordshire stretch, followed by Pike (25%) Gudgeon (2.47%), Perch (1.16%) and Rudd (0.37%). However, if you look at the biomass contribution per species for the River Ouzel as a whole, a rather different picture emerges (* indicates those species not found in the Bedfordshire stretch). Roach (37%), Pike (20%), Common Bream* (17%), Dace* (10%) and Chub* (6%), with several other less dominant species which I shall not list here.

Because certain species were not picked up by the survey in Bedfordshire, this by no means indicates that they are not present in that part of the River Ouzel which flows through our county. It simply means that either they were not present at the survey site on the day in question, or, for some reason, they avoided capture. Indeed, in this context, a very interesting piece of information came to light, and I quote directly from the survey report: "In addition to the fifteen species recorded during the survey, a Barbel was caught (16.5 cm) at Newport Pagnell on a day when survey work had to be abandoned because of high flows. This is the first record of Barbel being caught in the River Ouzel."

The surveyed section of the Grand Union Canal relating to Bedfordshire involves the stretch between Leighton Buzzard and Mill Heath. Fig. 2 shows the comparative abundance per species in this area, and again Roach are the most numerically abundant species accounting for 32% of the total, followed by Gudgeon (23%), Perch (21%), Common Bream (14%), and Ruffe (8.5%) — the "others" being Carp (1.28%) and Roach/Bream Hybrids (0.22%). Rudd are also noted as being present, but for some reason they have not been sampled quantitatively.

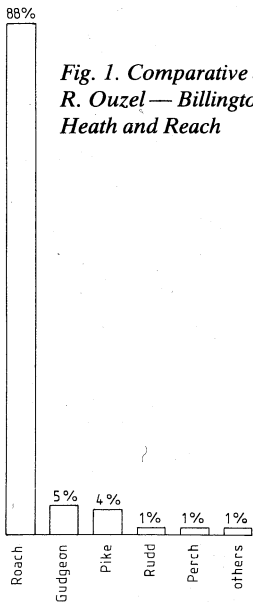
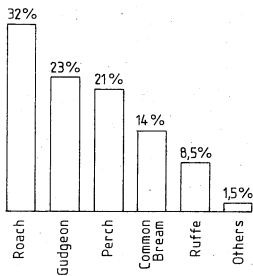


Fig. 1. Comparative abundance of species. R. Ouzel — Billington to Grange Mill, Heath and Reach

Fig. 2. Comparative abundance of species. Grand Union Canal — Leighton Buzzard to Mill Heath



Although the community structure in the Grand Union Canal shows a more even flow than that found in many of the other sites surveyed to date, the apparent absence of Pike, our major predatory species, gives cause for concern. In fact, the report notes very low Pike numbers for the Canal as a whole and states that this species only contributed just under 3% of the biomass. Compare this with 20% for the River Ouzel (25% in the Bedfordshire stretch) as stated above, and also (see *Bedf. Nat.* 38 39-41) 13% in the downstream section of the Great Ouse and 12% in the Ivel. The report goes on to say, and I quote: "The lack of macrophytic growth, primarily as a result of boats stirring up the bottom silt, is detrimental to the Pike population and allows the rapid build up of small, slowly growing Roach." All too frequently our colleagues, the bird-watchers, report upon the adverse effect which boating and water-sports have on the county's avifauna. Now we have evidence to show that these activities are also detrimental to our ichthyofauna and, by a logical progression, angling interests as well. The angling fraternity has taken this threat seriously for many years and, frankly, I feel it is about time the Conservation/Natural History bodies did likewise!

In the Bedfordshire stretch of the Grand Union Canal, Common Bream were the most dominant species by weight accounting for 33% of the mean biomass. They were followed by Carp (30%), Roach (18%), Perch (11%), Gudgeon (7%) and Ruffe (1%). Again, if we look at the biomass contributions for the Canal as a whole, a different picture emerges. Roach (46%), Common Bream (20%), Perch (13%), Carp (8%), Ruffe (3%) and Gudgeon (3%).

1984 produced records for 15 species, with new county tetrad records for 12 of them. The three species not reported in new locations were Gudgeon, Common Bream and Carp. No reports were received during the year for Bleak and it is significant to note that last year, when re-assessing the status of this species in the county, I mentioned the fact that they had not been found in the Ouzel or the Grand Union Canal. However, the AWA's surveys note them as being present at two sites on the Ouzel and one site on the canal — but all three sites were well outside our county boundary and in none of these cases was the species sampled quantitatively, thus indicating that only one or two individual fish were taken. Whilst on the subject of Bleak, I must apologetically draw attention to a glaring omission in last year's Fish report. In the 1981 Report (*Bedf. Nat.* 36 38) I pointed out that I had never heard of "still" water Bleak in this country. Last year I failed to draw attention to the fact

that the AWA's surveys not only show that still water Bleak are to be found in this country, but also in our county — i.e. in the Longholme Lake at Bedford.

Before drawing this report to a close, I must mention an error in the 1982 Fish Report (*Bedf. Nat.* 36 38) in which I stated that Bryan Inns had found the following species — namely 3-Spined Stickleback, Perch, Carp and Rainbow Trout — in the small ditch which forms part of the boundary between Stanbridge and Tilsworth. In fact, only 3-Spined Sticklebacks were found in this location. The other species were all reported from the Ouzel Brook, which separates Stanbridge and Tilsworth from Totternhoe. I am sorry about this and I am grateful to Bryan for drawing it to my attention.

Again, highly detailed information kindly supplied by the AWA has dominated the Fish Report, but this in no way under-rates the value of reports received from individuals. In fact, the three people listed below supplied no less than 61% of the new tetrad records received during the year, and I must express my gratitude to: Miss L. Brightman, B.M. Inns and Mrs E.B. Rands

NEW TETRAD RECORDS FOR 1984

- Pike** *Esox lucius* — 3 tetrads. 92D K R.
Perch *Perca fluviatilis* — 1 tetrad. 16C.
Roach *Rutilus rutilus* — 1 tetrad. 16C.
Rudd *Scardinius erythrophthalmus* — 2 tetrads. 92K R.
Chub *Leuciscus leuciscus* — 1 tetrad. 92R.
Crucian Carp *Carassius carassius* — 1 tetrad. 92R.
Eel *Anguilla anguilla* — 1 tetrad. 16C.
Bullhead *Cottus gobio* — 2 tetrads. 92D, 16C.
3-Spined Stickleback *Gasterosteus aculeatus* — 2 tetrads. 03I, 16C.
Stone Loach *Noemacheilus barbatulus* — 2 tetrads. 92D K.
Minnow *Phoxinus phoxinus* — 1 tetrad. 16C.
Ruffe *Gymnocephalus cernua* — 1 tetrad. 92C.

TONY PETERKIN

SLUGS AND SNAILS Report of the Recorder

During 1983 and 1984 work on gathering records of the distribution of the slugs and snails of Bedfordshire has continued satisfactorily. I can now say that all completed record cards are entered into the filing system, the relevant dots are on the maps and all 10 Km square records have been entered into the National scheme.

The highest recorded tetrads, at present, are at Bromham and Radwell with nearly 90 species in both areas. This is chiefly due to the richness of the fauna of the River Great Ouse which runs through both tetrads. It should be possible to reach high levels of species in all tetrads through which this river runs. Flood debris deposited by the river in times of high flood can be a very valuable source of records, and I appeal to members to collect any such flood debris they may see. A small plastic bag full may yield as many as 50 + records.

I should like to thank all those members who have helped in any way. Mr Dave Guntrip continues to extend his knowledge of molluscs and has successfully mastered the identification of most of the small Pea Mussels (*Psidium* spp.). Miss Betty Clutten is also progressing well and supplies useful records. Mr Bryan Inns has become interested in flood debris at Stanbridgeford and hopefully will start looking at other sites. Dr Adrian Rundle continues to supply me with lists of the very small species of mollusc which turn up in his sieves.

Additionally I would like to thank the following:- Mrs F. Davies, Mr and Mrs Hooper, Mr V. Arnold and Dr B. Verdcourt.

E. BERYL RANDS

FURTHER RECORDS OF BEDFORDSHIRE HARVESTMEN (OPILIONES)

by A.J. Rundle, Ph.D.

Sixteen species of harvestmen were listed for Bedfordshire and their 10 km. distributions given by Rundle (1979). Since then many more records have been obtained whilst recording such ground-living animals as woodlice. Because of this the ground-living harvestmen, most of which can be found and identified throughout the year, are quite well recorded. Also, as much of the author's recording seems to be done in the winter and spring the autumn-maturing species are generally under-recorded. This paper is merely intended to place these new finds on record.

Anelasmaocephalus cambridgii — a further two sites can be added, making five in all.

SP937617 One under log in deep roadside ditch, just N.E. of Hinwick (3-4-1983 — AJR)

TL101632 One small juvenile in flood debris on bank of roadside stream, Brightman's Green End Farm, Little Staughton (29-7-1984 — D.W. Guntrip).

Nemastoma bimaculatum — Many more tetrad records have been obtained, but no new 10 km. records. This is hardly surprising as it only remains to be found in one 10 km. square, TL25.

Mitostoma chrysomelas — Four new 10 km. records: SP82, SP96, TL01 and TL25.

Homalenotus quadridentatus — Three more records brings the total to six.

SP894242 One amongst grass next to ruin of old building, just over 1 mile W.S.W. of Leighton Buzzard Railway Station (in the administrative county — but in vice-county no. 24 (Bucks.)) (9-6-1979 — AJR).

TL078296 Several under pieces of Chalk, Bartonhill Quarries, 3/4 mile N.N.E. of Streatley (5-10-1980 — AJR).

SP954354 One under piece of wood at edge of roadside wood, 1/2 mile S. of Husborne Crawley (20-4-1984 — D.W. Guntrip).

Mitopus morio — Three new 10 km. records have been added: SP93, TL16 and TL24.

Oligolophus tridens — Two records of this common autumn species, the first from our current recording: TL01 and TL23.

Paroligolophus agrestis — Although quite a few new tetrad records of this common species were obtained, there were no new 10 km. records.

Odiellus spinosus — Two more records of this rather uncommon and local species:

TL092234 One in back garden of 51, Wychwood Avenue, Luton (4-10-1980 — AJR).

TL013247 Several amongst rubbish by side of hay barn, Red Cow Farm, Bidwell, Dunstable (5-10-1982 — E.B. Rands).

Lacinius ephippiatus — There are three more 10 km. records: TL23, TL24 and TL25.

Phalangium opilio — Four new 10 km. records: SP91, TL14, TL16 and TL25.

Opilio parietinus — No new records!

Opilio saxatilis — Two new 10 km. records: TL02 and TL16.

Rilaena triangularis — Two new 10 km. records of this very common species: SP82 and SP91.

Megabunus diadema — One new record, again from within the administrative county but not the vice-county.

TL055215 — One under piece of wood on waste ground near road and farm, Chaul End (23-4-1983 — AJR).

Leiobunum rotundum — No new 10 km. records.

Leiobunum blackwalli — No new 10 km. records.

ACKNOWLEDGEMENTS

The author would like to thank all those who supplied records or specimens and those who gave permission to search on their land, whether specifically referred to above or not.

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Address: 29 Burlington Avenue, Kew, Surrey TW9 4DF

**THE SPIDERS AND HARVESTMEN OF OLD WARDEN
TUNNEL NATURE RESERVE
PART III. THE HARVESTMEN SPECIES
by T.J. Thomas**

INTRODUCTION

The original experimental procedure (Thomas 1982) was changed, for during June 1983, the pitfalls in all three areas were vandalised, many of the pots being thrown away or smashed. The remaining traps were removed and replaced by a row of four larger-sized jars set at six feet intervals. The trapping data after the above date cannot be strictly compared with the previous results although the information from 1977 to 1984 has been presented in this report for completeness of the record. The format of Part II (Thomas 1983) is used with the numbering of the tables and figures following from that paper.

THE HARVESTMEN SPECIES

Twelve of the thirteen species of harvestmen listed at the end of this report were captured in the pitfalls, but only one, *Anelasmaocephalus cambridgii*, was a new record for the Reserve. Thus, as for the spiders, one of the three objectives of the experiment had been realised. Included in the list are immatures that were not ascribable to any particular species, as well as the total number of individual captures for 1977—1984. From 1979—1980 the sexes of the mature harvestmen were determined, by dissection if necessary.

Area	A			B			C		
	Species/yr	Total	Cumulative/yr	Species/yr	Total	Cumulative/yr	Species/yr	Total	
1977	3	4	3	6	3	4	3	6	
1978	9	6	7	10	9	6	7	10	
1979	8	6	6	9	10	8	7	10	
1980	7	6	6	9	11	9	7	11	
1981	5	6	6	7	11	9	7	11	
1982	8	5	8	10	12	10	10	12	
1983	9	7	9	12	12	10	11	12	
1984	7	6	8	10	12	10	11	12	
Mean									
(1977-84)	7	6	7	9	—	—	—	—	
Mean									
(1979-82)	7	6	7	9	—	—	—	—	

Table 4. Numbers of harvestmen species in the pitfalls(1977-84)

The first point to discuss is whether or not all the capturable species have been taken. Table 4 gives the number of species found in each year of the experiment. (Keep in mind that 1977—1978 were the years when the traps were being set and that 1983—1984 was when the collecting procedure had to be changed). The total cumulative column shows a rapid levelling-off at twelve species, i.e. nearly 50% of the British List (Sankey and Savory 1974). With such a small number of harvestmen (22) in the fauna, and very few of these with specialised habitats, it is not surprising that a maximum of twelve species had been rapidly achieved. Overall, for the Cutting section of the Reserve, twelve species are the probable maximum capturable, although the individual areas seem

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to have some selectivity, never in any one year, so far, achieving that number. In cumulative terms, however, Area A has reached that maximum with the other two areas just falling short.

The vandalism did not appear to affect the numbers of species taken, which may not be such a surprising result as the damage was done in the early summer when most harvestmen are not very active. Autumn is the main period of activity for this group of arachnids.

THE ABUNDANT SPECIES

Throughout the trapping period, 1977 — 1984, three harvestmen, *Oligolophus tridens* (48%), *O. agrestis* (11%) and *Platybunus triangularis* (27%), accounted for an overall average of 86% from all captures. These species are considered to be very common (Todd 1949, Sankey 1948, Sankey and Savory, 1974).

THE ACTIVITY OF THE ABUNDANT HARVESTMEN

For comments on "abundance" and "activity" see Part II (Thomas 1983).

The lives of harvestmen have been described by e.g. Todd(1949), Sankey(1948) and Phillipson(1959). Basically there are three types of life history for harvestmen, all of which live for approximately 12 months. Some of the species are found mature the year round, having overlapping generations. Others die before the eggs they have laid hatch; the majority of species emerge in the spring and die off towards the end of the year, and the others overwinter as juveniles before maturing. In some species the males die before the females who die soon after laying their eggs. More than one clutch of eggs is produced (Phillipson 1959) which will affect the relative abundance of the species giving a spread of, or an apparent increase in, maximum activity.

The activities of the three abundant species have been derived from the results for 1977 — 1984. No major differences were found in the activities span in any of the trapping areas, in any year, which suggests the activities are independent of the site and are not radically affected by seasonal variations. Thus, by combining the results, a pattern of activity throughout the year was established for each of these harvestmen, as shown in Figure 3, where all the values are the percentages of the total individuals, including the immatures, for each species. The results of other authors are included for comparison, although in many instances the sexes had not been examined for their individual activities.

Oligolophus tridens. Immatures were first active in April, reaching a maximum in June, the numbers then decreasing with the onset of maturity, although many were found as late as December. The adults appeared in June, reaching a peak in July, with another in September/October. After this the numbers fell off rapidly, but matures were still being captured as late as February.

The results for the mature sexes showed that males were first taken in July, the females a month earlier, both having a maximum in September and none being found after December. It was interesting to note that the females had a second peak earlier in July. This "bimodality" is commented upon by Williams (1962) but this may be caused by the egg hatches occurring over some time.

The life span of both sexes is about 12 months. Note: Todd(1949):- immatures May/August; matures August - November. Phillipson(1959):- egg clutches laid September - October, hatching in May - June; immatures end of May/June to end of August; matures end of August to end of November. Sankey(1948):- immatures May - June; matures June - December, September maximum. Sankey and Savory(1974):- immature in June/July; matures July - December. Williams(1962):- details of maturities not given; June - November, maxima in July and October. Mackie(1968):- males September/October, September maximum; females July - September and November, September maximum. Whatmough(1968):- adults most frequently July - October.

Oligolophus agrestis Immatures were active throughout June and August, with a maximum in July. The matures first appeared in August, reaching a maximum in November, the numbers falling rapidly until February when no more of this species were taken. The mature male and female

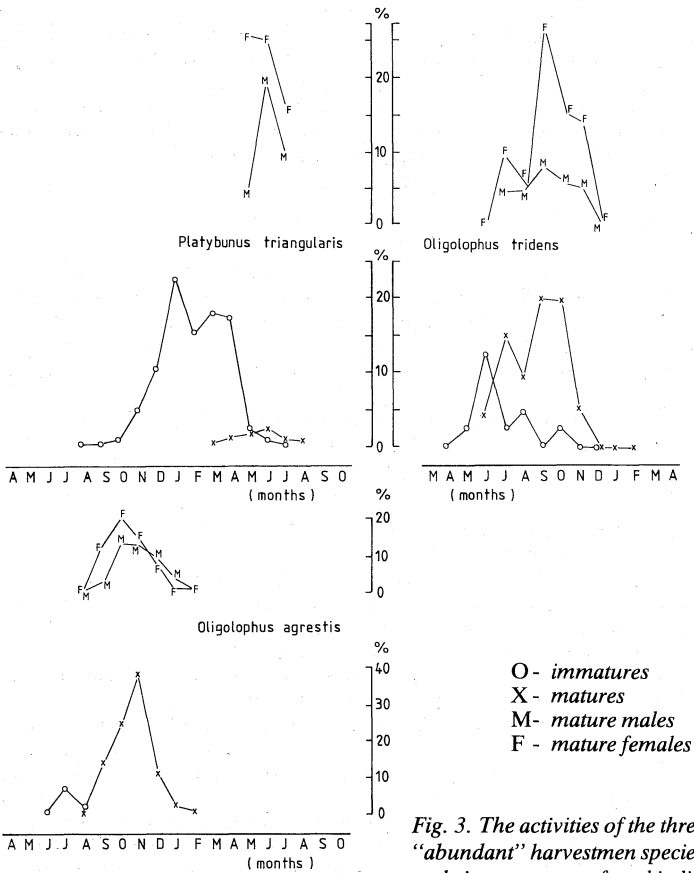


Fig. 3. The activities of the three "abundant" harvestmen species. Vertical scale is percentage of total individuals.

synchronised activities from August to February, and having the same peak in October. No matures were taken outside this period of time.

The life cycle is approximately 12 months. Note: Todd(1949):- immatures May - August; matures August - January. Phillipson (1959):- egg batches laid September/October - November, first hatching May/June; immatures May/June - August/September; matures August/September and dying-off January/February. Sankey (1949):- immatures May - June; matures June - December, September maximum. Sankey and Savory (1974):- immatures May - June; matures July - December, September/October maximum. Williams (1962):- maturities not given; July - January. Mackie (1968):- males August - February, maximum in November; females September - February, maximum in September. Whatmough (1968):- adults most frequently July - October.

Platybunus triangularis Over 90% of the captures were immatures. Obviously the adults were not so readily trapped, probably through a change in the behaviour of this species when mature. Sankey(1948) points out that certain harvestmen migrate upwards from the ground into the field-layer, for with the onset of maturity there is a need for more space and larger prey (see also Todd 1949).

Immatures were taken throughout the year, the major catches being in January. Matures were found from March to August, with a small peak in June. The period of maturity seems to be quite short for the species i.e. 2-3 months, even allowing for poor catches from the changes in behaviour.

The life cycle is about 12 months. Note: Todd(1949):- immatures August - January and March/April; matures April - July. Phillipson(1959):- eggs laid June - July, first hatching in August; immatures August - June; matures June - July/August. Sankey(1948):- immatures September - March; matures April - July, maximum in May. Sankey and Savory(1974):- as for Sankey(1948). Williams(1962):- maturities not specified; April - June and late August - January. Whatmough(1968):- matures May - August.

CONCLUSIONS

Twelve out of the thirteen harvestmen species recorded for the Reserve at Old Warden Tunnel were also taken in the pitfall experiment. One species, *Anelasmacephalus cambridgii*, was a new record for the site. Three species, *Oligolophus tridens*, *O. agrestis* and *Platybunus triangularis*, were the most abundant, accounting for 85% of all captures. Some general comments on the activities of these three harvestmen were derived from the trapping data, which compared reasonably with published information.

The enforced change in the experimental procedure, because of vandalism, did not appear to have seriously affected the number of species taken.

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SPECIES LIST

<i>Anelasmacephalus cambridgii</i> (Westwood, 1874)	7
<i>Nemastoma bimaculatum</i> (Fabricius, 1775)	277
<i>Mitostoma chrysomelas</i> (Hermann, 1804)	12
<i>Homalenotus quadridentatus</i> (Cuvier, 1795)	304
<i>Mitopus morio</i> (Fabricius, 1779)	12
<i>Oligolophus tridens</i> (C.L.Koch, 1839)	3691
<i>O. agrestis</i> (Meade, 1855)	847
<i>Phalangium opilio</i> Linne, 1761	55
<i>Opilio saxatilis</i> C.L.Koch, 1839	248
<i>Platybunus triangularis</i> (Herbst, 1779)	2097
<i>Megabunus diadema</i> (Fabricius, 1779)	
<i>Leiobunum rotundum</i> (Latreille, 1795)	14
<i>L. blackwalli</i> Meade, 1861	10
<i>Leiobunum</i> sp. juv.	19
sp. juv.	77

SPIDERS (Araneae)

Report of the Recorder

In the 1983 Report, spiders collected by Holmes(ref:33) were noted, although their identities were in doubt as none of the specimens were available, at that time, for checking. Since then, Terry Hollingworth has searched for, and found, the small collection that Holmes left at Cranfield. Examination showed that, of the species listed in 1983, the following must be deleted: *Mobelia penicillata*, *Drepanotylus uncatius*, *Walckenaera nudipalpis*, *Bolyphantes luteolus*, *Hypomma cornutum* and *Cnephalocotes obscurus*.

Throughout 1983 various members provided specimens. For example, Terry Hollingworth submitted over 2000 spiders for identification from fieldwork at Cranfield, amongst which were some new records. One interesting capture was a gynandromorphic *Xysticus cristatus*, three-quarters immature male and one-quarter mature female.

Vic Arnold, during a mothing evening, captured a mature male *Pholcus phalangioides* from the outside of a heated building used for rearing game birds. This was unusual, for this species is normally found indoors (see e.g. J.R. Parker. Arachnological History. Synanthropic spiders and other things. Part II. *Newsl. Br. arachnol. Soc.* No.39. March 1984. 1-2).

In the literature survey(ref:18) Palmer(ref:4) has listed *Lycosa exigua* which has since been recognised as being the two closely-related species, *Pardosa monticola* and *P. palustris*, both of which have now been taken. Also, the following, previously noted in the literature, have been captured: *Diplocephalus permixtus*, *Pardosa agrestis*(TH) and *Ceratinella brevipes*.

Over 300 spider species are now recorded for Bedfordshire, 292 by collecting and 11 in the literature, representing virtually 50% of the British List.

My thanks to all those who supplied information and presented specimens.

ADDITIONS TO THE COUNTY LIST AND THE LITERATURE SURVEY

Family DICTYNIDAE			
<i>Argenna subnigra</i> (O.P-Cambridge)	TH*	<i>W. vigilax</i> (Blackwall)	33
Family GNAPHOSIDAE		<i>(Entelecara flavipes</i> (Blackwall)	33)
<i>Haplodrassus signifer</i> (C.L.Koch)	*	<i>Dismodicus bifrons</i> (Blackwall)	33
Family CLUBIONIDAE		<i>Metopobacterus prominulus</i> (O.P-Cambridge)	*
<i>Clubiona terrestris</i> Westring	33	<i>Trichoperna mengeti</i> (Simon)	*
<i>Phrurolithus festivus</i> (C.L.Koch)	33	<i>Panamomops sulcifrons</i> (Wider)	33
Family THOMISIDAE		<i>(Asthenargus paganus</i> (Simon)	33*)
<i>Xysticus cristatus</i> (Clerck)	33	<i>Erigone dentipalpis</i> (Wider)	33
Family LYCOSIDAE		<i>E. atra</i> (Blackwall)	33
<i>Pardosa monticola</i> (Clerck)	33	<i>Porrhomma pygmaeum</i> (Blackwall)	33
<i>P. palustris</i> (Linnaeus)	*	<i>P. errans</i> (Blackwall)	TH*
<i>P. prativaga</i> (L. Koch)	33	<i>Syedrella innotabilis</i> (O.P-Cambridge)	*
Family AGELENIDAE		<i>Agyneta cauta</i> (O.P-Cambridge)	*
<i>Tegenaria gigantea</i> (Chamberlin and Ivie)	33	<i>A. ramosa</i> Jackson	*
<i>Hahnina nava</i> (Blackwell)	33	<i>Bathypantes gracilis</i> (Blackwall)	33
<i>H. helveola</i> Simon	33	<i>Diplostyla concolor</i> (Wider)	33
Family THERIDIDAE		<i>Stemonyphantes lineatus</i> (Linnaeus)	33
<i>Robertus lividus</i> (Blackwell)	33	<i>Lepthyphantes tenuis</i> (Blackwall)	33
Family ARANEIDAE		<i>L. mengei</i> Kulczynski	33
<i>Mangora acalypha</i> (Walckenaer)	*	<i>Linyphia (Neriene) clathrata</i> Sundevall	33
Family LINYPHIIDAE			
<i>Walckenaera obtusa</i> (Blackwall)	33	* new records	
<i>W. unicornis</i> O.P-Cambridge	33	TH * new records from Terry Hollingworth	

T.J. THOMAS

DRAGONFLIES (Odonata) Report of the Recorder

Mapping and site recording of dragonflies in the county continued in 1984. These are the two basic activities of a county recorder. Site recording is perhaps the most important, as it may lead to conservation action. If a site contains more than a certain number of dragonfly species breeding in it, then it may qualify to be scheduled as a Site of Special Scientific Interest (S.S.S.I.). Similarly, it may also qualify if it contains exceptionally rare species. Obviously the known richness of a site depends on how much study it has received. One of the best recorded sites in Bedfordshire is a small, shallow pond at Tilsworth, created in 1973, that has been visited frequently by Bryan Inns over the last three years. It contains 13 dragonfly species that are breeding or probably breeding, and two more that were probably just visiting from the near-by stream. In fact, only two Bedfordshire species have not been seen there.

Site recording is also useful in suggesting the habitat preferences and requirements of the different dragonfly species, which may be quite marked. For instance, the two species not present at Tilsworth pond are the White-legged Damselfly, which is restricted to rivers, and the Red-eyed Damselfly, which frequents larger lakes and ponds with abundant floating leaves of waterlilies or pondweed. A recorder soon learns to be able to assess a site and forecast, with a fair degree of accuracy, which species will be present.

Mapping is based nationally on the 10 kilometre grid square. This presents difficulties to a county recorder, as much of his patch may be made up of small bits of squares the major part of which lie in other counties. If these are counties where no dragonfly recording is taking place, it may force the conscientious county recorder to spend much time combing arable deserts for small ponds that may have a few species. How much more satisfactory it would be to cross the county boundary and fill in the 10 Km squares with records from good dragonfly sites from the adjacent counties. In Bedfordshire only five 10 km squares are more or less completely in the county — TL 05, 04, 03, 02, and 14. Eight more are more than half in the county — SP 95, 94, 93, 92, TL 06, 15, 13, and 24. Two have about one third in the county — SP96 and TL01, then there are five more with small fragments. Taking the fifteen squares listed above, the current mapping coverage is shown in the table. The records in brackets are those shown in the second edition of the *Provisional Atlas of Dragonflies* (which includes records to the end of 1978) which were not submitted by me.

The *Provisional Atlas* reveals the geographical spread of a species and is a fascinating document. It indicates that there are at least six dragonfly species, not recently recorded in Bedfordshire, that may possibly be present. These are *Coenagrion pulchellum* (Variable Damselfly), *Aeshna juncea* (Common Hawker), *Brachytron pratense* (Hairy Dragonfly) and the nationally rare *Libellula fulva* (Scarce Chaser) all recorded in Huntingdonshire and *Sympetrum scoticum*, the Black Darter, which might still be found on acid Greensand pools. In addition, *Gomphus vulgatissimus*, the Club-tailed Dragonfly, may occur in the river Great Ouse as it does in the river Thames. All these are worth looking out for.

ACKNOWLEDGEMENTS

My thanks are due to the following people who have completed site cards, sent me records or drew my attention to good sites: Stephen Cham, Barry Squires, Martin Izzard, Bryan Inns, Bill Drayton, Doris Wickings, and Jonathan Howe. Without their help, and that of many others in previous years, the coverage of the county would be much less complete. Could I plead for some future concentration on the relatively poorly recorded 10 km squares of TL06, 05 (Bedford), 02 and 01 (Luton).

NANCY DAWSON

	SP					TL									
	92	93	94	95	96	01	02	03	04	05	06	13	14	15	24
ZYGOPTERA (DAMSELFLIES)															
<i>Calopteryx splendens</i> Banded Demoiselle	+			+	+			+	+	+	+	+	+	+	+
<i>Lestes sponsa</i> Emerald Damselfly	+	(+)	+	+			+		+					+	+
<i>Platychernis pennipes</i> White-legged Damselfly					+				+	+					+
<i>Pyrrosoma nymphula</i> Large Red Damselfly	+	+	+	+	+			+	+			+	+	+	
<i>Ischnura elegans</i> Blue-tailed Damselfly	+	+	+	+	+		+	+	+	+	+	+	+	+	+
<i>Enallagma cyathigerum</i> Common Damselfly	+	+	+	+	+	(+)	+	+	+	+	+	+	+	+	+
<i>Coenagrion puella</i> Azure Damselfly	+	+	+	+				+	+	+		+	+	+	+
<i>Erythromma najas</i> Red-eyed Damselfly					+							+	+	+	
ANISOPTERA (DRAGONFLIES)															
<i>Aeshna grandis</i> Brown Hawker	+	+	+	+	+	(+)	+	+	+	+	(+)	+	+	+	+
<i>Aeshna cyanea</i> Southern Hawker	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Aeshna mixta</i> Migrant Hawker	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Anax imperator</i> Emperor Dragonfly	+		+	+			+	+	+			+	+	+	+
<i>Libellula depressa</i> Broad-bodied Chaser	+	+	+	+	+	+		+	+			+		+	
<i>Libellula quadrimaculata</i> Four-spotted Chaser	+	+		+				+	+			+	+	+	
<i>Orthetrum cancellatum</i> Black-tailed Skimmer	+	+	+	+			+	+	+	+		+	+	+	
<i>Sympetrum striolatum</i> Common Darter	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Sympetrum sanguineum</i> Ruddy Darter	+		+	+					+						+

Table : Summary of Odonata distribution in Bedfordshire

GRASSHOPPERS and CRICKETS (Orthoptera/Saltoria)

Report of the Recorder

This year has produced a slight increase in new records compared with the last four years. The increase is not significant but an encouragement that with effort there are still new records to be found.

The most interesting record this year was from Vic Arnold who heard Common Green Grasshoppers singing in a meadow next to Flitwick Moor (TL 049352) on June 21st. The earliest record for the species before this was July 2nd 1983 in Woburn Park. The singing is an indication that it was a mature adult. This means the Common Green Grasshopper reaches maturity in Bedfordshire in June whilst our other grasshopper species do not reach maturity until July.

Records serve a number of useful purposes. One is for mapping their distribution and another to gain knowledge of their natural habitat preferences. Not all records achieve this, Mary Sheridan recorded a new tetrad for the Speckled Bush-cricket on her bedroom wall (SP908255). This is the first record of the species from the Leighton Buzzard area. A more unusual record was from Vic Arnold who found the Slender Ground-hopper when moth trapping on May 5th at Kings Wood, Heath and Reach (SP 930294) and three more at the same place on June 6th. This particular ground-hopper is found in wet places so it must be assumed the moth trapping was on their habitat rather than being attracted by the light. Mature ground-hoppers can be found at anytime of the year. In Bedfordshire they are far from common.

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

Lesser Marsh Grasshopper *Chorthippus albomarginatus* — 15A, 15B, 16B, 06W.

Common Green Grasshopper *Omocestus viridulus* — 92V, 03M.

Oak Bush-cricket *Meconema thalassinum* — 92S, 15G, 06W.

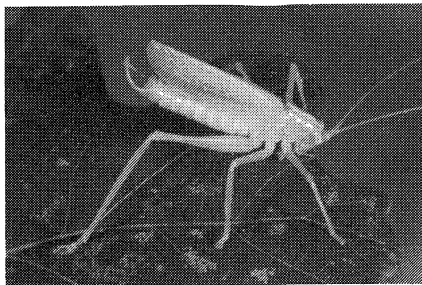
Speckled Bush-cricket *Leptophyes punctatissima* — 92R, 92C, 06W, 13C.

Slender Ground-hopper *Tetrix subulata* — 04B.

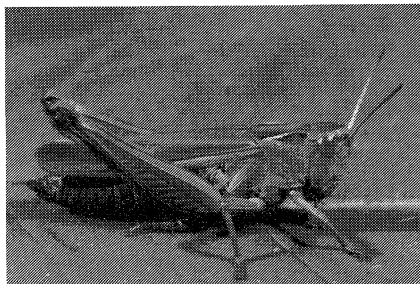
ACKNOWLEDGEMENTS

I would like to thank V. Arnold, B. Inns, Mrs M. Sheridan and B. Squires for their records.

D.G. RANDS



Common Green Grasshopper
Omocestus viridulus



Oak Bush-cricket
Meconema thalassinum
(Photos: Derek Rands)

MOTHS (Lepidoptera) Report of the Recorder

The study of moths, like most aspects of natural history, has its good and bad years. Species become, or appear to become, common or scarce. Some are 'rediscovered' and some vanish. New sites are investigated and new sources of information become available. The weather has a great influence, both on the subject being studied and on the amount of time it allows in the field. 1984 was no exception to this.

The spring was not very good, with rain and cold nights. I was not able to start moth trapping until 7th April, due to the bad weather, and the two Society field meetings held during this period which were concerned with moths were too cold for anything to be seen. Although the summer was very hot, and good for several species of dayflying moths, the nights were clear, resulting in low temperatures. There were very few really good nights for large numbers of moths. In most years, the autumn and early winter can be interesting. This year the weather was wet, windy and cold and there were very few nights that were suitable for trapping.

It was possible to do fieldwork, and thanks to an enthusiastic team of regular recorders, the map for species recorded on a 10km square basis (Fig. 1) shows an improvement since 1983. I tried to concentrate on under-recorded areas and, together with L. Field and H. Winter, visited Luton Hoo; Whitehill Wood, Butterfield Green; Bison Hill, Whipsnade; and both Stockgrove Park and Kingswood, Heath and Reach. W. J. Champkin, S. Finney and R. Passley continued with their work at Marston Thrift, and revisited Coopers Hill, Amptill, after a gap of many years. T. S. Hollingworth carried on with his work at Stotfold and Cranfield, as well as looking at other sites in the county. A. Muir-Howie hoped to work in the Little Staughton area, but due to transport and moth trap problems did not have much success. The records that he did get were destroyed when a mouse made a nest out of his field note book!

BEDFORDSHIRE			
7	72	31	12
6	316	319	137
5	311	226	397
4	276	403	210
3	362	324	168
2	83	273	207
1	9	(SP) - 0 - (TL)	1 2

Fig. 1. Numbers of species in 10km squares - as at 31.12.84.

Not everybody is able to trap in the countryside, but they are able to provide valuable records from their gardens. Mr and Mrs A. Walford at Wootton, A. Outen at Clifton, B. Inns at Stanbridge and R. Passley at Pavenham all helped in this manner.

Over the last few years a number of new books have become available, giving up to date information on the 'macro lepidoptera'. This has meant that certain species on the county list have now had to be discounted. A number of these came from Rothamsted traps, so it does prove that even the professionals can make mistakes. I have listed these at the end of this report. One new book, *Colour Identification Guide to Moths of the British Isles* by B. Skinner, published in late 1984, will probably replace R. South's *Moths of the British Isles* as the standard reference book. South's books have never been fully revised over the many years that they have been in print.

Bedfordshire suffered a double loss during the year with the death of two of its entomologists —

Dr V. H. Chambers and K. F. Webb. Dr Chambers was a regular supplier of records, and was always ready to encourage and help fellow entomologists. K. F. Webb will be remembered as a dedicated moth enthusiast who had the ability, knowledge and patience to 'rediscover' species, as well as recording new species in the county. Keith was a great believer in some of the methods of the early entomologists, and he used these methods, together with MV. light, to great effect.

During 1985, I hope to carry on working in under-recorded areas of the county, concentrating on the Melchbourne area of North Bedfordshire. The Hon. H. de B. Lawson Johnston has assured me that there is no shortage of moths in the area, as so many were caught in his outside light that they shorted out the lamp. We hope to find out, in 1985, what species they were.

SPECIES LIST

The following list contains new species and species of particular interest with comments where required. 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.

- 371 **Lunar Hornet Moth** Further records were obtained for this moth in 1984. The presence of this species may be found by identifying their pencil-sized exit holes at the base of willow bushes.
- 378 **Orange-Tailed Clearwing** Collected as larvae from the stems of Wayfaring Tree, by K. F. Webb, from a site on Markham Hills, Streatley. Adults emerged June — July 1984. First record since 1907.
- 382 **Six-Belted Clearwing** Several were seen, flying in the sunshine, at Sewell on the 7th July, 1984.
- 1633 **Small Eggar** K. Parsons found large colonies of the larvae of this species on Blackthorn in the Shelton/Upper Dean area in June 1984. This species is now considered to be scarce nationally and is the first Bedfordshire record for at least 50 years.
- 1648 **Pebble Hook-tip** Both 1983 and 1984 were good years for this moth. Woods with birch are good places to find it, such as Maulden and Flitwick Moor.
- 1660 **Frosted Green** A good year for this attractive spring flying moth with records from Maulden Woods, Stockgrove Park and Luton Hoo.
- 1680 **Maidens Blush** Taken at light by K. F. Webb at the disused sandpit, Clophill on 23/8/84. A scarce insect, last recorded at The Lodge, Sandy in 1974.
- 1747 **The Streamer** This spring flying moth was quite common this year with records from Maulden Woods, Luton Hoo and Kings Wood, Heath and Reach.
- 1773 **Broken-barred Carpet** A very locally common species, this moth may be increasing its range, as both 1983 and 1984 were good years.
- 1811 **Slender Pug** Collected as larvae, by K. F. Webb and A. Riley, from willow catkins, Maulden Woods and Clophill sandpit, spring 1984. Probably a common and widespread species if searched for in this way.
- 1822* **Marsh Pug** Recorded by K. F. Webb, flying around its food plant — Field Mousear, at Sandy Banks, nr Clophill on 9/6/84. Also taken at Flitwick Moor on 20/6/84 by the recorder.
- 1851* **Golden-rod Pug** Recorded from a Rothamstead trap at Eaton Bray on 17/8/83.
- 1859* **Sloe Pug** Collected as larvae by K. F. Webb from the flowers of Blackthorn, spring 1984. Probably a common insect.
- 1868 **Lesser Treble-bar** Recorded by W. J. Champkin from Coopers Hill, nr Ampthill and Sharnbrook Summit, nr Souldrop in the summer of 1984. First records since 1945 — now considered that this is probably fairly common in the county. (See pages 49 and 50 of *Colour Identification Guide to Moths of the British Isles* by B. Skinner).
- 1881 **Early Tooth Striped** At light, Kings Wood, Heath and Reach, 9/5/84 by the recorder. Also recorded by A. Riley from Stockgrove Park, Heath and Reach, during May. The last record for this species was from Sandy Warren, in June 1961.

- 1902 **Brown Silver-line** Always a common moth, 1984 was a very good year for this insect whose larvae feeds on Bracken.
- 1911 **Large Thorn** All of the recent records for this moth come from Rothamsted traps. Considered to be a migrant species of moth, it is presumed to be a resident in the county at low density, at least in the Cockayne Hatley area.
- 2005 **Great Prominent** At light, Stockgrove Park, Heath and Reach on 4/5/84. J.B. Barnwell had approximately 60 over a period of 2 months at Aspley Heath. A local insect in the county that may be extending its range.
- 2010 **Scarce Prominent** This species was first recorded from Bedfordshire in 1981. Since then it has been recorded from a variety of other sites where its food plant, birch, grows.
- 2019 **Chocolate-tip** Normally a scarce insect, but 1984 was a good year for this species. Recorded from Maulden Woods, Coopers Hill, nr Amphill, in the spring, and Clophill sandpit in August.
- 2105 **Dotted Rustic** This species was widely recorded in the county in 1984. Normally found in wooded parts of Bedfordshire.
- 2184 **Northern Drab** An uncommon Bedfordshire moth; one, at light, Whitehill Wood, Butterfield Green; 5/5/84.
- 2275 **Dusky-lemon Sallow** At light by T.S. Hollingworth, Cranfield (Feddon House), 17/9/84. Considered now to be an uncommon Bedfordshire moth.
- 2298 **Svensson's Copper Underwing** Recorded by K.F. Webb from the Clophill sandpit in August, 1984. See pages 122-123 of B. Skinner's book for differences between species.
- 2397 **Small Yellow Underwing** This attractive day-flying moth had not been recorded for several years, until 1984. Recorded at Sandy Banks, nr Clophill; Maulden Woods; Sharnbrook Summit, nr Souldrop; and Bison Hill, Whipsnade.
- 2465 **The Four Spotted** W.J. Champkin recorded several of these uncommon moths, flying in the sunshine at their usual site, Sharnbrook Summit, nr Souldrop in June 1984.
- 2476* **Beautiful Snout** Taken at light in July, 1984 by J.B. Barnwell at Aspley Heath. The main colony was found on the Heath, at Aspley Heath, where its food plant, Bilberry, is quite common.

ACKNOWLEDGEMENTS

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

J.B. Barnwell, W.J. Champkin, G. Castle, R. Collings, W. Drayton, L. Field, S.F. Halton, T.S. Hollingworth, B.M. Inns, Mr and Mrs R. Lee, D.V. Manning, A. Muir-Howie, A.R. Outen, D. Parsons, K. Parsons, R. Passley, A.J. Martin, R.C. Revels, A. Riley, B.R. Squires, R.B. Stephenson, T.J.J. Thomas, Mrs J. Walford, H. Winter, I. Woiwod, and Mr and Mrs Young of Luton Hoo Estates.

ADDENDA

- 1675 **Dingy Mocha** Recorded in error by Rothamsted, at The Lodge, Sandy (*Bedf. Nat.* 34 48).
- 1704 **Silky Wave** Recorded in error by Rothamsted, at Shuttleworth Agricultural College, Old Warden (*Bedf. Nat.* 36 48).
- 1848 **Angle-barred Pug** Now considered to be a coastal subspecies of **Ash Pug** (1849).
- 2156 **Beautiful Brocade** Recorded in error (*Bedf. Nat.* 37 47).
- 2236 **Pale Pinion** J. Heath has now confirmed that this species has been recorded in error (*Bedf. Nat.* 38 58).
- 2286 **Light Knot Grass** The validity of this record is not now accepted (*Bedf. Nat.* 13 27).

V.W. ARNOLD

SOME HISTORICAL MOTH RECORDS FOR BEDFORDSHIRE — Part 2

by V.W. Arnold

In the Bedfordshire Naturalist for 1980 (*Bedf. Nat.* 35 41-42) I listed a total of 19 species of moth that had not been recorded in the county for at least 50 years. Since that list was published, at least five have been "rediscovered".

The species that are listed in this article have not been seen for approximately 25 years; they were, in the main, all recorded by B.B. West and have been extracted from various editions of the Bedfordshire Naturalist. Information about these moths is very scant, perhaps, when all of the original records made and kept by B.B. West are returned to the Society, more details about the Lepidoptera of the county in the 1950's and early 1960's will emerge.

- 163 **The Forester** Every year a search has been made for this day-flying moth in likely sites, but as yet nothing has been found. It was last recorded in Kings Wood, Heath and Reach, in 1950, by Dr V.H. Chambers. This species must still be with us.
- 381 **Large Red-belted Clearwing** This moth is usually found in birch woods, where its larvae feed in birch stumps. Last recorded in Rowney Warren, in 1956, by Dr. V.H. Chambers. A search for the larvae would no doubt be slightly easier than finding the adults, this moth must be with us in suitable locations.
- 1760 **Red-Green Carpet** Recorded in Bedford, at light in 1956 (*Bedf. Nat.* 13 32). There is also a specimen in J.B. Barnwell's collection from the Aspley Heath — Woburn Sands area during 1940-1960. A woodland species on the wing in September and October and again in April and May, which probably awaits rediscovery.
- 1818 **Marbled Pug** At light, Bunkers Hill, Sandy in 1960 and 1961 (*Bedf. Nat.* 15, 16; 16 19). Normally a moth that is found in the South of England, and then only locally — this could well be a case of mistaken identity.
- 1885 **Clouded Magpie** At light, Bedford School, July 1959 (*Bedf. Nat.* 14 42). Although this species was recorded in the Victoria County History as "Bedford district, in woods" this species could have been misidentified as well.
- 1890 **Sharp Angled Peacock** A drawing was made of this moth — seen on a willow, the Embankment, Bedford (no date given) (*Bedf. Nat.* 14 42). This moth is considered to be an uncommon species — possibly confused with (1889) **Peacock Moth**.
- 1945 **Brussels Lace** Found on a fence, in Willington, late July 1962 (*Bedf. Nat.* 17 15). The Victoria County History shows it as found in "Luton"! Without having sight of the specimen it is now impossible to decide if this was an authentic record or a mistaken identity.
- 2058 **Cream-spot Tiger** Recorded at Bunkers Hill, Sandy, in May 1960, (*Bedf. Nat.* 15 16), when two specimens were taken at light. It seems very odd that such a distinctive moth has not been recorded in the county since this date.
- 2132 **Neglected Rustic** At Sandy, August 1958, taken at light (*Bedf. Nat.* 13 27). Another case of a possible mistaken identity.
- 2233 **Golden-rod Brindle** This moth is mentioned in B.B. West's *List of Macrolepidoptera for the County*, using the 1947 Heslop list number 483. (*Bedf. Nat.* 13 32). No other detail is given. Mention is made of this species in the 1934 book *The Natural History of the Hitchin Region* as being found at Rowney Warren.
- 2290 **Reed Dagger** One in Cardington Road, Bedford, June 1956, (*Bedf. Nat.* 11 27) as **Powdered Dagger** *Simyra albovenosa*. As this moth is usually found in marshy areas, this record must be suspect unless the specimen can be produced.
- 2291 **The Coronet** One in Cardington Road, Bedford, August 1957, (*Bedf. Nat.* 12 29) shown as **Crown Craniophora ligustri**. The Victoria County History shows it as found at "Potton". Another possible mistaken identity as both the month and habitat are wrong.
- 2295 **Marbled Green** Listed as **Marbled Vert** *Cryphia muralis*, Cardington Road, Bedford, 1958 (*Bedf. Nat.* 13 27). Probably a misidentified **Marbled Beauty** *Cryphia domestica*, as this is a common urban moth.

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BUTTERFLIES (Lepidoptera)

Report of the Recorder

The weather, as always, has played a very important role in the progression of our knowledge of butterfly distribution within the county. A mild dry winter led into a mild dry spring. May was the wettest spring month but from then on the year became more conducive to the propagation of this order. With a long dry often hot summer butterflies flourished, but as the wind directions had not been favourable for spring migration, we were not to be delighted by a noticeable influx of Painted Lady, Clouded Yellow or Red Admiral. Only later did a few Red Admirals appear, probably from insects that had survived the very mild winter, but I had no reports of the other two species.

In general the whole order had a very productive year and one species that had not been seen recently in any great numbers, the Holly Blue, started to make its come back this year. Holly Blues seem to have a number of lean years followed by a sudden upsurge in their numbers. This only lasts for a few years when once more their number decline. This species is not the only one to do this and it was another such species, the Black Hairstreak, that really made the news during early July. Andy Tomczynski phoned me to report a sighting on a well-surveyed reserve in the middle of the county. I rushed over to check for myself and found to my delight a healthy colony of the species egg laying around blackthorn bushes in a clearing. Further exploration showed that these butterflies were well established all along the edge of the reserve. This was the first time the Black Hairstreak had been seen in the county for very many years and has never been recorded, to my knowledge, from this particular wood, previous sites were always in the north.

The following week Andy again phoned to say he had seen the Purple Emperor in the same



Black Hairstreak

(Photo: Richard Revels)

wood. This time he was accompanied by Martin Palmer who confirmed the sighting. One specimen does not mean that the species is living in the wood as it may have been a captive bred specimen released on the site. Further checks must be made. Further checks must also be made to establish the presence of the Silver Spotted Skipper on Bison Hill. Bill Drayton had photographed a specimen there the previous year. Once again a new recent record for the county, this species had not been seen in Bedfordshire for about forty years.

However, the report of Silver Washed Fritillary from Odell Wood was more easily explained. A letter from John Payne informed me that he had released bred specimens there this year. John knows the wood very well indeed and now was only reintroducing the species there as it appears to have died out some twenty years ago. Other reports of the less common species include a single sighting of the Dark Green Fritillary from Old Warden Tunnel and White Admiral from the top of Bison Hill. Both recordings come from very reliable sources but as I have previously observed,

single specimens do not mean that a productive colony exists in any particular area. However it will be an interesting experience to try to prove the presence of breeding colonies on these sites. As I said earlier it has not been a good year for migrants, nevertheless at least one Camberwell Beauty made it to the county to turn up in Mr and Mrs Ferguson's garden in Heath and Reach.

All common species seem to have had a successful year with very high recorded sightings of Small Tortoiseshell, Peacock, Orange Tip, Common Blue, Small Copper, Wall, and the common browns.

The recording scheme was supported well again this year but the number of tetrads returning less than 10 species remains stubbornly high, although many of them do have 9 as shown in the map, Fig. 1. It must be noted that when I started up this particular survey in 1977, some 85% of the county was under recorded. Now that figure has dropped to 26% which is a remarkable achievement in only 8 years. This, of course, is not all my work but that of the small army of recorders who derive as much pleasure out of the hobby as I do.

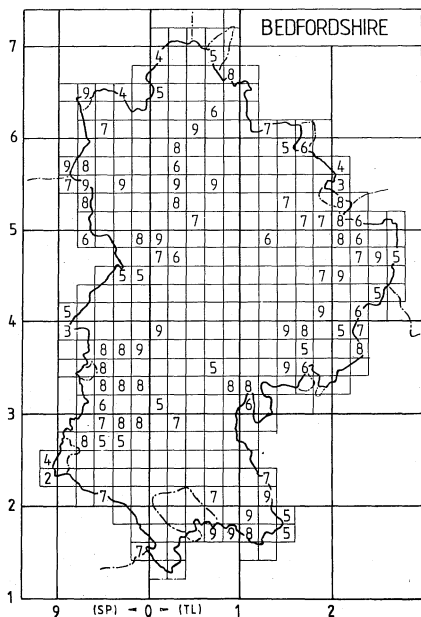


Fig. 1. Numbers of species recorded in tetrads with fewer than 10 records - as at 31.12.84.

ACKNOWLEDGEMENTS

Once again I must thank the following for all their help this year: M. Allen, D. Anderson, V. Arnold, E. Bowskill, D. Brockwell, C. Burton, L. Carmen, G. Castle, G. Clarke, B. Clutton, A. Doody, W. Drayton, Mr and Mrs Ferguson, M. and G. Hooper, B. Inns, M. Izzard, D. Manning, B. Nightingale, D. Odell, M. Palmer, J. Payne, V. Peck, B. Rands, M. Rowland, A. Smith, B. Squires, T. Thomas, A. Tomczynski, J. and A. Walford.

ALAN J. MARTIN

BUGS (Hemiptera — Heteroptera) Report of the Recorder

This year, again, most of my field-work has been outside the county and no new species were recorded for the county. However there was some spin-off, I learned how to find Microphysidae. Having located the tray and paint-brush which I had previously applied unsuccessfully to the same end, I brushed the trunk of an Ash tree in my garden (14th July 1984) and was immediately rewarded with a number of adults and immatures of *Loricula elegantula*. Following up this initial success I have found the species readily elsewhere in the county in the same habitat and will be surprised if it is not ubiquitous. Another species in the same family, *Myrmedobia distinguenda*, was encountered quite by chance when beating Heather at Coopers Hill, Ampthill, on 15th July. Having previously recorded a specimen from a conifer in Maulden Woods this did not extend the 10km square distribution but was only the second county record.

In conclusion, it is appropriate to draw attention to a note I prepared for the *Heteropterists' Newsletter* (No. 1, September 1983). In this are listed the commoner species of Heteroptera in Bedfordshire. These are classified as: (a) those recorded from 50% or more of the 10km squares; and (b) those from 25-50%. There are 98 species in the former category and 67 in the latter. A somewhat more refined list will be prepared for this journal.

SUMMARY DISTRIBUTION OF BEDFORDSHIRE HYMENOPTERA ACULEATA

Part I: ANTS and WASPS

by V.H. Chambers

The records from more than 90 localities up to 1983 are summarised under 10 kilometre squares. Most of the species, arranged under families, were taken over the period 1930-1955, as described in my accounts published in the *Transactions of the Society for British Entomology* 1949 9 197-252 and *Journal of the Society for British Entomology* 1955 5(4) 126-129. A short list of additions was published in *Ent. mon. Mag.* 108(1972) 6. A.J. Rundle published some ant records in the *Bedfordshire Naturalist* 1980 34 51-52. In No. 26 of the same journal (*Bedf. Mag* 1973 26 52-54) I summarised changes, mainly deterioration, during the years 1946-71 in the major sites for aculeate hymenoptera which I will not repeat here, beyond noting that King's Wood, Heath and Reach, which I did not mention, has undoubtedly lost much of its faunal interest through human activity, becoming overgrown and shading of the rides. But it has not all been loss, and absence of a record after 1960 does not necessarily mean that a species no longer occurs in a square. Although the heath adjoining Baker's Wood, Heath and Reach has suffered from spreading bracken, cutting back of this plant and the opening of sandy paths, well-trodden by public use, on the Stockgrove Country Park, has created a new site where many species of this group of hymenoptera now flourish. Let us hope that overuse does not lead to sand erosion.

The nomenclature is that of the Royal Entomological Society of London's *Handbook for the Identification of British Insects* 1978 Vol. XI. Part 4 as amended by 1980 Vol. VI. Part 3 (b) of the same series: 360 of the 592 species listed therein are recorded for the county.

In the following tables:—

- ★ — records to 1960
- — records after 1960
- ⊙ — records in both periods

10 km Squares Species	SP										TL											
	91	92	93	94	95	96	01	02	03	04	05	06	11	12	13	14	15	16	23	24	25	
DRYINIDAE																						
<i>Aphelopus holomelas</i>		*	0		*		*	*	⊛					*	*						⊛	
<i>melaleucus</i>		*					*	*	*					*								
<i>serratus</i>		*	*		*		*	*	*												0	
<i>Anteon brachycerum</i>		*	*				*		⊛							*					0	
<i>brevicornis</i>	0	*	*		*				⊛		0					*					0	
<i>cursor</i>	0	*							⊛												0	
<i>flavicornis</i>		*							⊛		*											
<i>jurineanum</i>		*			*				⊛		*					*					0	
<i>marginatum (a)</i>																					0	
<i>Chelogyms infectus</i>		*																			0	
<i>cameroni</i>	0	⊛		⊛	0	⊛	⊛	*	⊛		0		*		*						0	
<i>ephippiger</i>	0	*	*		*	*	*	*	⊛						*						0	
<i>lucidus</i>	0				*	*	*	*	⊛												0	
<i>fulviventris</i>	0				⊛	⊛	*	*	0						*	0					0	
<i>scapularis</i>		*					*		⊛												0	
<i>kiefferi</i>																					0	
<i>gaullei</i>					0			0													0	
<i>Prenantleon basalis</i>	0	*			0	*	⊛	⊛	0						*						0	
<i>longicornis</i>						*	*	*	0					*		0					0	
<i>ruficornis</i>	*				0	*		*						*		0					0	
<i>Mesodryinus niger</i>									*													
<i>Gonatopus sepsoides</i>		*							*												0	
<i>Dicondylus bicolor</i>								0								0						
EMBOLEMIDAE																						
<i>Embolemus ruddii</i>	0					0	*	0	0					*		0					0	
BETHYLIDAE																						
<i>Cephalonomia formiciformis</i>									*						*							
<i>Bethylus cephalotes</i>	⊛	*			*	*	*		⊛					*								
<i>fuscicornis</i>	0							*	*													
<i>dendrophilus</i>						*			0													
CHRYSIDIDAE																						
<i>Cleptes semiauratus</i>	0														0	*					0	
<i>nitidulus</i>								*						*								
<i>Omalus panzeri</i>	*								*												*	
<i>auratus</i>	*	0		0		*	*	⊛						0	*						0	
<i>aeneus</i>	*	*		*	0				0													
<i>violaceus</i>									*													
<i>Hedychridium ardens</i>	⊛	*						*	⊛						*							
<i>Euchroeus neglectus</i>		*						*	*						*							
<i>Chrysis cyanea</i>	*	*			*	*		⊛	*					*	⊛						0	
<i>ignita</i>	*			*	*	*	*	⊛	⊛					⊛	*						0	
<i>mediata</i>				*	*	*	*	⊛	⊛					0								
<i>viridula</i>	*	*		*	*	*	*	*							*							
<i>ruddii</i>	*			*																		
<i>helleni</i>	*			*																		
<i>fulgida</i>	*																					
<i>impressa</i>	*																					
<i>angustula</i>									*												0	

(a) Apparently last taken in 1922; previously only early last century in the UK.

10 km Squares Species	SP										TL										
	91	92	93	94	95	96	01	02	03	04	05	06	11	12	13	14	15	16	23	24	25
TIPHIIDAE																					
<i>Tiphia femorata</i>																					*
<i>minuta</i>		*	*																		
<i>Methocha ichneumonoides</i>		*	*																		
<i>Myrmosa atra</i>		⊙	*	*	0		*	*	⊙							*					⊙
MUTILLIDAE																					
<i>Smicromyrme rufipes</i>									⊙												
SAPYGIDAE																					
<i>Sapyga 5-punctata</i>		*			*	*		0	*							*					
<i>clavicornis</i>					*				*	*											
FORMICIDAE																					
<i>Myrmica lobicornis</i>	0	0					*		*												
<i>rubra</i>	0	⊙	⊙	0	0	0	⊙	⊙	0	⊙	0	0	0	0	⊙	0	0	0	0	0	0
<i>ruginodis</i>	0	0	0	0	0	0	⊙	⊙	⊙	0	0	0	0	⊙	0	0	0	0	0	0	0
<i>scabrinodis</i>	0	⊙	⊙	0	0	0	⊙	⊙	⊙	⊙			0	0	*	⊙	⊙	0	0	0	0
<i>sabuleti</i>		0					0	*	*	⊙											
<i>schneckii</i>							0														
<i>Leptothorax acervorum</i>		⊙	⊙				⊙		⊙			0	*		0						0
<i>nylanderi</i>															*	0					
<i>Stenammina westwoodi</i>		0	0	0		0	0	⊙	0						0	0			0	0	
<i>Myrmecina graminicola</i>		0								0											
<i>Formica cunicularia</i>							⊙				0										
<i>fusa</i>		⊙	⊙			0									*	0	0				0
<i>rufa</i>									⊙												
<i>sanguinea (b)</i>		⊙																			
<i>Lasius niger</i>	0	⊙	0	0	0	0	0	⊙	⊙	0	0	0	0	0	⊙	0	0	0	0	0	0
<i>flavus</i>	⊙	⊙	0	0	0	0	⊙	0	0	0	0	0			0	0	0	0	0	0	0
<i>alienus</i>	0	0							*					*		0					
<i>brunneus</i>				*					*	0	0										
<i>umbratus</i>				0				⊙	*							0	0				
<i>mixtus</i>				0											0						0
<i>fuliginosus</i>	*			0	*		*	*	⊙						0		⊙		0	*	
POMPILIDAE																					
<i>Dipogon subintermedius</i>	*	⊙	0			*	*	⊙							*	*					0
<i>bifasciatus</i>			*																		
<i>variegatus</i>	*			*																	
<i>Auplopus carbonarius</i>				*																	
<i>Caliadurgus fasciatellus</i>	*	0																			
<i>Priocnemis perturbator</i>	⊙		*	*		*			⊙							*					
<i>coriacea</i>	*								⊙						*		*				
<i>parvula</i>	⊙					*	*	⊙		0			*		⊙						
<i>exaltata</i>	*	*	⊙	0	*	*	⊙			0		*	⊙								
<i>cordivalvata</i>	*	*	*	*		*	*	*					*								
<i>fennica</i>	*	*	*	*		*	*	*													
<i>agilis</i>	*					*	*	*					*								
<i>pusilla</i>	*					*	*	⊙					*	*							
<i>schioedtei</i>	*							*													

(b) I could find no ants in 1982 and 1983 at its original Heath and Reach site: last time they were seen, as far as I know, was in 1963, and there was a heather fire in the area in 1975-6.

10 km Squares Species	SP										TL										
	91	92	93	94	95	96	01	02	03	04	05	06	11	12	13	14	15	16	23	24	25
<i>Pompilus cinereus</i>		⊕	⊕						⊕							0					0
<i>Agenioedeus cinctellus</i>		*	*		*	*			*							*					0
<i>Arachnospila minutula</i>		*	*					*	*					*							0
<i>spissa</i>	0	⊕	*	*		0	*	⊕	*					*							0
<i>trivialis</i>		⊕	*						*												*
<i>anceps</i>		⊕	*	*	0		*	*	⊕					*	*	⊕					0
<i>wesmaeli</i>		*																			
<i>Evagetes crassicornis</i>		⊕	⊕				*	*	*	*	*										0
<i>Anoplus viaticus</i>		*					*														
<i>infuscatus</i>		⊕							*							*					
<i>concinus</i>		*							*									*			
<i>caviventris</i>		*			*	*	*											*			
<i>Episyron rufipes</i>		⊕							*							*					
<i>Ceropales maculata</i>		*	*															*			

EUMENIDAE

<i>Odynerus melanocephalus</i>			*						*												
<i>spinipes</i>		*	*				*		*							*					
<i>Gynomerus laevipes</i>		*		*	*	*	*		*						*		*				
<i>Ancistrocerus gazella</i>		*	*		*			*	⊕						⊕	*	*				0
<i>nigricornis</i>		*	*		*	*			*		*				*	*	*				
<i>oviventris</i>		*	*					*													
<i>parietinus</i>		*	*					*	*							0					
<i>parietum</i>									*												
<i>trifasciatus</i>		*				*	*		⊕							*	*				0
<i>Symmorphus connexus</i>		*					*	*		0											
<i>crassicornis</i>							*														
<i>gracilis</i>		⊕		*	⊕	*	*	*	*		*				*	*	*				
<i>mutinensis</i>		*		*		*	*	*	⊕		*				*		*				

VESPIDAE

<i>Vespa crabro</i>		*	*												0	0					*
<i>Dolichovespula norwegica</i>		*	*				*		*												*
<i>sylvestris</i>		*	*		*		*	*	*		*			*	⊕						
<i>Vespula austriaca</i>									*												
<i>rufa</i>			*				*	*	⊕				*	*	*						
<i>germanica</i>		*	*					*	*				*	*	*						
<i>vulgaris</i>			*			*	*	*	*				*	*	*						

SPHECIDAE

<i>Miscophus concolor</i>		*	*						*												
<i>Astata pinguis</i>		*	*						*												0
<i>Tachysphex pompiliiformis</i>		⊕	⊕						⊕							⊕					
<i>unicolor</i>		*	*						*												
<i>Trypoxylon attenuatum</i>		*				*			*						*						0
<i>clavicerum</i>		*	*	*		*	*	*	*						*	*					0
<i>figulus</i>		*	*		*			*	⊕	*					*						0
<i>Crabro cribrarius</i>		⊕	*						*						*						0
<i>peltarius</i>		⊕	⊕						*						*						0
<i>Crossocerus megacephalus</i>		*	*		*		*	*	⊕	*				0	⊕	⊕					0
<i>nigritus</i>	0	*	*		0	*	*	*	⊕	*					⊕	⊕					0
<i>cetratus</i>		*	*		*				⊕	*					⊕						
<i>capitosus</i>		*	0		*	*	⊕		⊕						0						

10 km Squares Species	SP					TL																
	91	92	93	94	95	96	01	02	03	04	05	06	11	12	13	14	15	16	23	24	25	
<i>Crossocerus styrius</i>	0		⊛						0												0	
<i>annulipes</i>		*	*	0	⊛		*	*	⊛						⊛	*					0	
<i>podagricus</i>		*	0	*	*	0	*	*	⊛						⊛			*			0	
<i>palmipes</i>		*							*												⊛	
<i>tarsatus</i>		⊛	0		0		*	*	*					*		*					0	
<i>pusillus</i>		⊛	⊛		0		*		*						⊛						⊛	
<i>ovalis</i>		⊛	⊛	*			*		⊛												0	
<i>wesmaeli</i>		⊛	⊛						*						⊛						0	
<i>elongatulus</i>			*		*	0		*	⊛					0								0
<i>dimidiatus</i>					*	0			*							*						
<i>binotatus</i>		*	*		*																	
<i>vagabundus</i>		*			*				*													
<i>4-maculatus</i>		⊛	*						⊛						*	⊛					⊛	
<i>Ectemnius sexcinctus</i>			0												0							
<i>cavifrons</i>		*			*	⊛	*	*	⊛	0	*			*	*	*					0	
<i>lapidarius</i>		*	*		*	*	*	*	*						*							
<i>rubicola</i>					*	*	*	*	⊛							*	*					
<i>continuus</i>		⊛	0		*	⊛	*	*	⊛						*							
<i>lituratus</i>		*							*													
<i>cephalotes</i>		*					*		*						*	*						
<i>Rhopalum coarctatum</i>					⊛				*													0
<i>clavipes</i>	0		⊛		0	*	*	*	⊛	0				*	⊛	⊛					0	
<i>Entomognathus brevis</i>		⊛	*	*			*	*	⊛					*			*				*	
<i>Lindeniis albilabris</i>		⊛	0				*	*	⊛							0					⊛	
<i>panzeri</i>		0							0							0					0	
<i>Oxybelus uniglumis</i>		⊛	⊛		0				⊛						⊛						0	
<i>argentatus</i>		*							*													
<i>Psen equestris</i>		⊛	⊛						⊛						⊛						*	
<i>lutarius</i>		*							*												0	
<i>bicolor</i>									*							*					*	
<i>dahlbomi</i>		*	*		*	*	*		⊛												0	
<i>Psenulus pallipes</i>		*	*		⊛	0	*		⊛						⊛						0	
<i>concolor</i>					0				⊛							0					0	
<i>Spilomena differens</i>	0	*	*	0	0				⊛							0					0	
<i>trogodytes</i>	0	*	*		⊛				⊛	0				*	⊛	⊛					0	
<i>beata</i>								*	⊛													
<i>vagans</i>					*				*													
<i>Stigmus solskyi</i>			*	*	*		*	*	⊛						*						0	
<i>Pemphredon lugubris</i>		*	*	*	*	*	*	*	⊛						*	*						
<i>inornata</i>		⊛	⊛	⊛	⊛	*	*	*	⊛						*	⊛						
<i>lethifer</i>		⊛	*		*			*	⊛						⊛	*	*				⊛	
<i>clypealis</i>			0		*			*	*						*	*						
<i>mortifer</i>									*							*						
<i>Diodontus minutus</i>		*	*						⊛							*					0	
<i>luperus</i>		⊛							*					*		*	*					
<i>tristis</i>		⊛			*				*						*	*					0	
<i>Passaloecus gracilis</i>		*	*	⊛	*			*	⊛						⊛	*					0	
<i>singularis</i>		⊛	*	⊛	*	*	*	*	⊛						*	*					0	
<i>monilicornis</i>		*	*		⊛				⊛					*		0						
<i>corniger</i>		*	*	0		*		*	⊛						*	*	*				0	
<i>Ammophila sabulosa</i>		⊛	⊛			*		*	⊛						⊛	*					0	
<i>Mellinus arvensis</i>		⊛	*		0			*	⊛							0						
<i>Nysson dimidiatus</i>		*					*	*	*								*					
<i>spinosus</i>				*	*		*	*	*													
<i>trimaculatus</i>		*							*												*	
<i>Alysson lunicornis</i>											0											
<i>Agogorytes mystaceus</i>		*	*	*	*		*		⊛					*								
<i>Gorytes tumidus</i>		*	*				*		*						*	*					⊛	
<i>4-fasciatus</i>		*			0				*													
<i>Cerceris rybyensis</i>		⊛	*			*			*													
<i>arenaria</i>		⊛	*						⊛						⊛						⊛	
<i>ruficornis</i>		*							*													

WOODLICE, CENTIPEDES AND MILLIPEDES (Isopoda, Chilopoda and Diplopoda) Report of the Recorder

It is now a few years since my last Recorder's Report was published in this Journal (Rundle, 1980). Since that date many more interesting records have been obtained even though recording has been much less intense than before. Two woodlice, two centipedes and three millipedes are recorded now for the first time from the vice-county. In addition, one woodlouse which was recorded from the county before this survey was started has been refound and additional material of a millipede, which could only be referred to a species pair before, has made a specific identification possible. These additions now bring our totals up to 23 species of woodlice and water lice, 23 centipedes and 32 millipedes.

WOODLICE AND WATER LICE (Isopoda)

The most exciting find here is undoubtedly that of the wetland species *Ligidium hypnorum*. It was first found in a dense clump of reeds near the S. side of a stream near Flitwick (TL042344) by Mr D. W. Guntrip on 26th July, 1981, who also found it at another site nearby on the Flitwick Moor Nature Reserve on the same day. Since these original discoveries Mr Guntrip has gone on to find it at several other sites in the county and it is now also known from the following 10 km. squares: SP93, TL04, TL13 and TL14. Its occurrence in the county was predicted in a previous report (Rundle, 1979) and despite the Recorder's ability to find this species outside Bedfordshire, he seems totally incapable of doing so within it!

The other new woodlouse is the greenhouse alien species *Cordioniscus stebbingi*, one of which was found by Mrs E. B. Rands under a rock slab by the edge of the "pond" in the main glasshouse of the Willington Garden Centre (TL117496) on the 6th February, 1982. This is a rare alien species which has apparently only previously been recorded from glasshouses in a few botanic gardens in this country.

The species which has been refound is *Armadillidium nasatum*, a fairly large pill woodlouse occurring naturally in limestone screes and coastal habitats in southern Britain but becoming more restricted to rubbishy sites and greenhouses further north. The previous Bedfordshire record was from a greenhouse near Bedford (in TL05). It has now been found in greenhouses in 10 km. squares TL01, TL03 and TL14, and Mr Guntrip has also found an outdoor site in a front garden in Luton (TL100214).

The following new 10 km. records have also been obtained (bringing the total to 290): *Asellus meridianus* — TL06; *Cylisticus convexus* — TL01; *Porcellio dilatatus* — TL01 and TL02; *Trachelipus rathkei* — SP95 and TL02; *Haplophthalmus mengei* — TL05.

Our knowledge of Bedfordshire woodlice is now such that no further species, bar aliens, are likely to be added to the county list, although the small soil species *Trichoniscoides sarsi*, which had been recorded from Barton Hills, has yet to be refound despite several attempts to do so.

CENTIPEDES (Chilopoda)

The Society's Field Meeting to Radwell on 3rd June, 1984 produced many interesting records of which the best was undoubtedly the discovery of the first Bedfordshire specimens of the rare centipede *Cryptops parisi* by Mrs J. Street. The species proved to be fairly common under stones, rubbish, etc. at the base of a wall on the W. roadside verge just N. of Radwell Bridge (TL004573). This species is rare in southern Britain although a flurry of recent records suggests that it is suddenly extending its range. It is closely similar to the very common *Cryptops hortensis* and care must always be taken with its identification. The presence of *C. parisi* or of our third British species of the genus, *C. anomalans*, is usually indicated when specimens longer than about 20 mm. are found.

A small, somewhat juvenile, female *Lithobius* collected during another of the Society's Field Meetings on 29th July, 1984 appeared to belong to the previously unrecorded rare species *L.*

curtipes. It came from damp clayey soil in the bottom of a roadside ditch beneath an oak tree ½ mile N.W. of Little Staughton (TL097634). Unfortunately, females of this species are hard to distinguish from females of the much commoner *L. crassipes* and juvenile females can be extremely difficult to name. The specimen was accordingly sent to Mr A.N. Keay for verification who also forwarded it to the expert on the Lithobiomorpha, Dr E.H. Eason, who was able to confirm it as *L. curtipes*. This animal, then, becomes the sole representative of the species from Bedfordshire. It would be nice if one of the very distinctive males of the species could now be found within our boundary.

The following new 10 km. records have also been obtained (bringing the total up to 233): *Strigamia acuminata* — TL01; *Geophilus carpophagus* — TL01; *Geophilus electricus* — TL13; *Brachygeophilus truncorum* — TL13; *Lithobius macilentus* — TL01.

Only four more species of centipede are likely to be added to the county list. These are *Brachyschendyla dentata*, *Chaetechelyne vesuviana*, *Clinopodes linearis* and *Cryptops anomalans*. The first is a very small, rare soil species and the latter three are rare species likely to occur in gardens or amongst rubbish.

MILLIPEDES (Diplopoda)

Detailed taxonomic work carried out by Mr J.G. Blower has resulted in many name changes (see lists in Richardson, 1985). The revised names of Bedfordshire species are as follows:

Previous Name	New Name
<i>Geoglomeris jurassica</i>	<i>Stygioglomeris crinita</i>
<i>Microchordeuma scutellare</i>	<i>Melogona scutellare</i> (see below)
<i>Polymicrodon polydesmoides</i>	<i>Nanogona polydesmoides</i>
<i>Entothalassinum italicum</i>	<i>Stasotea italica</i> (see below)
<i>Polydesmus coriaceus</i>	<i>Polydesmus inconstans</i>
<i>Isobates varicornis</i>	<i>Nemasoma varicornis</i>
<i>Julus scandinavicus</i>	<i>Julus scandinavicus</i>

The first new millipede to be found since the last report was the small species *Melogona scutellare*, one male and one female of which were found under pieces of dead wood at the edge of a roadside winter wheat field at Milton Bryan (SP972302) on 21st February, 1981 by AJR and Mr Guntrip. This species occurs sporadically in the south, but is much commoner in northern England.

A visit to Frost's Garden Centre at Woburn Sands, Bucks. (just outside our county boundary) on 6th February, 1982 yielded the greenhouse species *Oxidus gracilis* and suggested its possible occurrence in Bedfordshire. This was confirmed the same day at the Willington Garden Centre (TL117496) where it was found to be very common under elm logs, rock slabs, etc. at the edge of the "pond" in the main greenhouse. Following the much publicised advice to consult "Yellow Pages" for all your needs, further garden centres were located and subsequently visited. This resulted in a further record at the Flitt Vale Nurseries Ltd. (TL032337) on 7th February, 1982. A case of let your fingers do the recording! The species has also been found at the Luton Borough Nurseries at TL085198 on 9th March, 1982 by Mrs Rands.

The third species to be added is the rare southern *Stasotea italica*. This was found under logs in a wooded area of the Henlow Scout Camp Site at TL180388 on 1st April, 1983. This site proved to be quite exceptional and yielded nine species of centipede (including the third Beds. record of the rare *Geophilus electricus*) and fifteen millipedes. Another of the millipedes found here was *Brachychaeteuma bradae*. Two females belonging to this genus were recorded in the last report but as no males had been found it had only been possible to refer them to the species pair *bradae/bagnalli*. The presence of males at Henlow enable a full identification to be made. It is suggested here that the two earlier specimens are also of *bradae* as *bagnalli* seems to be restricted to natural woodland habitats in northern England.

The following new 10 km. records have been obtained (bringing the total to 349): *Polydesmus*

angustus — TL16; *P. inconstans* — TL05; *P. denticulatus* — TL24; *Macrosternodesmus palicola* — SP93; *Ophiodesmus albonanus* — TL16; *Blaniulus guttulatus* — SP93; *Archiboreoiulus pallidus* — TL02; *Choneiulus palmatus* — SP93 and TL01; *Nemasoma varicorne* — SP93 and TL15; *Cylindroiulus nitidus* — SP93; *C. teutonicus* — TL05; *C. parisiorum* — TL13.

Only five additional species would seem at all possible to be added to county list: *Melogona gallica*, *Brachychaeteuma melanops*, *Craspedosoma rawlinsi*, *Cylindroiulus vulnerarius* and *C. latestriatus*. *M. gallica* is a western species with scattered sites to the east; *B. melanops* is a rare southern species which appears to prefer river banks and sea cliffs; *C. rawlinsi* is a mostly northern species with scattered southern sites; *C. vulnerarius* is an introduced soil species known from N. Surrey and Manchester; and *C. latestriatus*, which is closely similar to *C. britannicus*, is a predominantly coastal species which has been recorded from inland sites.

ACKNOWLEDGEMENTS

Mrs E.B. and Mr D.G. Rands deserve special thanks for putting up with me during many weekends, for conveying me around the county and for all their records. Of the many people who have helped with records Mr D.W. Guntrip must also be singled out for his excellent work. Dr E.H. Eason and Mr A.N. Keay helped with the identification of a centipede. The staff of the garden centres and nurseries mentioned herein are thanked for permission to investigate their glasshouses. To these, and everyone else who have helped in my studies, I offer my grateful thanks.

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A.J. RUNDLE

**CHECKLIST OF BEDFORDSHIRE COLEOPTERA:
(3) ELATERIDAE TO ANTHICIDAE
by B.S. Nau**

ABBREVIATIONS

B — Bedford School
D — Day
J — Jarvis

N — Nau
R — Roche
V — VCH (Fowler)

The numerical subscripts denote the year of publication where this is necessary for clarity. The references may be found in *A checklist and bibliography of Coleoptera in Bedfordshire* by B.S. Nau published in the Journal for 1982, (*Bedf. Nat.* 37 50-54). Additional references will be given in Part 4.

NUMBER OF SPECIES

Elaterioidea:		Cleridae	4	Colydiidae	2
Elateridae	21	Melyridae	5	Tenebrionidae	12
Throscidae	2	Cucujoidea:		Cisidae	7
Eucnemidae	1	Nitidulidae	32	Mycetophagidae	7
Cantharoidea:		Rhizophagidae	8	Tetatomidae	1
Cantharidae	22	Cucujidae	1	Salpingidae	4
Lampyridae	1	Sylvanidae	2	Pyrochroidae	1
Lycidae	1	Cryptophagidae	20	Melandryidae	3
Dermestoidea:		Biphyllidae	1	Scraptiidae	6
Dermestidae	7	Byturidae	2	Mordellidae	4
Bostrichoidea:		Erotylidae	2	Phipiphoridae	1
Anobiidae	8	Phalacridae	5	Oedemeridae	2
Ptinidae	3	Cerylonidae	2	Meloidae	2
Lyctidae	1	Coccinellidae	25	Anthicidae	3
Cleroidea:		Endomychidae	5		
Trogossitidae	1	Lathridiidae	13		
				TOTAL	250

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ELATEROIDEA		<i>A. obscurus</i> (L.)	V, V52, N
ELATERIDAE		<i>A. pallidulus</i> (Illiger)	V52
<i>Agrypnus murinus</i> (L.)	V, V52, N	<i>A. sordidus</i> (Illiger)	B
<i>Ampedus balteatus</i> (L.)	R, V52, N	<i>A. sputator</i> (L.)	V, V52
<i>Hypnoidus riparius</i> (Fabricius)	V	<i>Dalopius marginatus</i> (L.)	V, V52
<i>Fleutiauxellus quadripustulatus</i> (Fabricius)	B	<i>Adrastus pallens</i> (Fabricius)	V
<i>Melanotus erythropus</i> (Gmelin)	V, V52, N, B	<i>Denticollis linearis</i> (L.)	V, V52, B
<i>Cidnopus minutus</i> (L.)	R44, V52	THROSCIDAE	
<i>Athous bicolor</i> (Goeze)	V, B	<i>Trixagus dermestoides</i> (L.)	J
<i>A. haemorrhoidalis</i> (Fabricius)	V, V52, B	<i>T. obtusus</i> (Curtis)	J
<i>A. hirtus</i> (Herbst)	V, V52, N	EUCNEMIDAE	
<i>Ctenicera pecticornis</i> (L.)	J50	<i>Melasis buprestoides</i> (L.)	D, R44
<i>Actenicerussjaelandicus</i> (Muller)	V	CANTHAROIDEA	
<i>Prosternon tessellatum</i> (L.)	D, V52	CANTHARIDAE	
<i>Agriotes acuminatus</i> (Stephens)	V, J50, V52, N, B		
<i>A. lineatus</i> (L.)	V, V52, B		

Podabrus alpinus(Paykull)	N,B	Ctesias serra(Fabricius)	J	MELYRIDAE	
Cantharis decipiens Baudi	J50,V52,N	Anthrenus museorum L.	B		
Cantharis figurata Mannerheim	V	A verbasci(L.)	J	Dasytes aeratus Stephens	V,V52
C.lateralis L.	R44			Malachius bipustulatus(L.)	V,V52,N,B
C.livida L.	V,V52,B			M.marginellus(Olivier)	J50,V52
C.nigra(Degeer)	R44	ANOBIIDAE		M.viridis Fabricius	R,V52
C.nigricans(Muller)	V,V52,N			Anthocomus rufus(Herbst)	J,N,B
C.pallida Goeze	V52,N,B	Ptinomorphus imperialis(L.)	J		
C.pellucida Fabricius	N	Grynobius planus(Fabricius)	R,V52	CUCUJOIDEA	
C.rufa L.	N	Ochina ptinoides(Marsham)	R44,V52		
C.rustica Fallen	V,B	Xestobium rufovillosum(Degeer)	J50	NITIDULIDAE	
C.thoracica(Olivier)	J50	Ernobius mollis(L.)	R44,V52		
Rhagonycha femoralis(Brulle)	V,V52	Hemicoelus fulvicornis(Sturm)	J50	Kateretes bipustulatus(Paykull)	J,V52
R.fulva(Scopoli)	V,V52,N	Anobium punctatum(Degeer)	V,V52	K.pedicularius(L.)	J50
R.lignosa(Muller)	R,V52,B	Ptilinus pecticornis(L.)	V,V52	Brachypterus glaber(Stephens)	J
R.lutea(Muller)	V,V52,N			B.urticae(Fabricius)	R
R.testacea(L.)	V,D	PTINIDAE		Brachypterosus pulicarius(L.)	J,V52
Silis ruficollis(Fabricius)	J			B.vestitus(Kiesenwetter)	J44
Malthinus flaveolus(Herbst)	V,V52	Niptus hololeucus(Faldermann)	V	Pria dulcamarae(Scopoli)	J,V52
Malthodes fuscus(Waltl)	V	Ptinus fur(L.)	V	Meligethes aeneus(Fabricius)	V,V52,B
M.marginatus(Latreille)	V,V52	P.sexpunctatus Panzer	J50	M.atratus(Olivier)	V,V52,N
M.minimus(L.)	N			M.difficilis(Heer)	J50
		LYCTIDAE		M.erichsoni Brisout	J50
LAMPYRIDAE				M.erthropus(Marsham)	J50
Lampyris noctiluca(L.)	V,V52,N,B	Lyctus linearis(Goeze)	J50	M.flavimanus Stephens	R
				M.morosus Erichson	J50
		CLEROIDEA		M.nigrescens Stephens	V
LYCIDAE				M.serripes(Gyllenhal)	D
		TROGOSSITIDAE		M.solidus(Kugelann)	R,V52
Platycis minutus(Fabricius)	N			M.viridescens(Fabricius)	V,V52
		Nemozoma elongatum(L.)	R44	Epuraea aestiva(L.)	V,V52
DERMESTOIDEA				E.delete Sturm	V
		CLERIDAE		E.florea Erichson	V,V52
DERMESTIDAE				E.melanocephala(Marsham)	J
Dermestes lardarius L.	V	Oplito mollis(L.)	R44	E.melina Erichson	D,V52
D.maculatus Degeer	J	Thanasimus formicarius(L.)	R,V52,N	E.unicolor(Olivier)	V
D.murinus L.	V	Necrobia ruficollis(Fabricius)	V	Nitidula bipunctata(L.)	V
Attagenus pelli(L.)	R	N.violacea(L.)	V	Omosita depressa(L.)	V
				O.discoidea(Fabricius)	J50,V52

Soronia grisea(L.)	V,B	A.fuscipes(Gyllenhal)	R	Subcoccinella vigintiquattorpunctata	N,JN,B
Pocadius ferrugineus(Fabricius)	J,V52	A.nigripennis(Kugelann)	(V)	Coccidula rufa(Herbst)	V,V52,N,JN
Cycharus luteus(Fabricius)	J,V52	A.pusilla(Paykull)	V	C.scutellata(Herbst)	N
Pityophagus ferrugineus(L.)	V	A.ruficornis(Marsham)	V	Rhyzobius iitura(Fabricius)	R44,N,JN
Glischochilus hortensis(Fourcroy)	V,J,N	A.barani Brisout	J50	Scymnus frontalis(Fabricius)	V52,N,JN
RHIZOPHAGIDAE		A.fuscollis Mannerheim	V	S.auritus Thunberg	V,N
Rhizophagus bipustulatus(Fabricius)	R,N	A.linearis Stephens	J50,V52	Chilocorus bipustulatus(L.)	V
R.depressus(Fabricius)	V	A.strandi Johnson	V	C.renipustulatus(Scriba)	J50,V52,N,JN
R.dispar(Paykull)	V,N	Ootypus globosus(Waltl)	J50	Exochomus quadripustulatus(L.)	D,R44,V52,N,JN
R.ferrugineus(Paykull)	V	BIPHYLIDAE		Anisosticta novemdecimpunctata(L.)	V,V52,N,JN
R.perforatus Erichson	J50	Biphyllus lunatus(Fabricius)	J,V52	Aphidecta obliterata(L.)	R44,V52,N,JN
Monotoma conicicollis Aube	J50,N	BYTURIDAE		Tytthaspis sedecimpunctata(L.)	R,N,JN
M.longicollis Gyllenhal	V	Byturus ochraceus(Scriba)	J50,V52	Adalia bipunctata(L.)	V,V52,N,JN,B
M.picipes Herbst	V	B.tomentosus(Degeer)	V,V52	A.decempunctata(L.)	V,N,JN,B
CUCULIIDAE		EROTYLIDAE		Coccinella hieroglyphica L.	V,N,JN
Cryptolestes spartii(Curtis)	R44	Dacne bipustulata(Thunberg)	D	C.septempunctata L.	V,V52,N,JN,B
SYLVANIDAE		D.rufifrons(Fabricius)	V	C.undecimpunctata L.	V,N,JN
Silvanus unidentatus(Olivier)	J,V52,N	PHALACRIDAE		Harmonia quadripunctata(Pontoppidan)	NJN
Psammaecus bipunctatus(Fabricius)	J,N	Olibrus aeneus(Fabricius)	J,V52	Propylea quattordecimpunctata(L.)	J50,V52,N,JN,B
CRYPTOPHAGIDAE		O.corticalis(Panzer)	J50,V52	Anatis ocellata(L.)	J,V52,N,JN,B
Telmatophilus caricis(Olivier)	V	Stilbus atomarius(L.)	J50,V52	Myrrha octodecimpunctata(L.)	R,N,JN
T.typhae(Fallen)	J50,V52	S.oblongus(Erichson)	N	Calvia quattordecimguttata(L.)	V,V52,N,JN,B
Cryptophagus cellaris(Scopoli)	V	S.testaceus(Panzer)	V,V52	Neomysia oblongoguttata(L.)	V,V52,N,JN,B
C.dentatus(Herbst)	V,V52	CERYLONIDAE		Halyzia sedecimguttata(L)	B
C.laticollis Lucas	V	Anommatus duodecimstriatus(Muller)	J50	Thea vigintiduopunctata(L.)	V,V52,N,JN,B
C.lycoepardi(Scopoli)	V,N	Cerylon histeroideus(Fabricius)	V,V52	ENDOMYCHIDAE	
C.scanicus(L.)	V,V52			Sphaerosoma piliferum(Muller)	R
Micrambe villosus(Herz)	D			Mycetaea hirta(Marsham)	J
M.vini(Panzer)	V			Symbiotes latus Redtenbacher	J
Antherophagus nigricornis(Fabricius)	J			Lycoperdina bovistae(Fabricius)	J
Atomaria atricapilla Stephens	R,N			Endomychus coccineus(L.)	J50,V52,N
		COCCINELLIDAE		LATHRIDIIDAE	
		Stephostethus angusticollis(Gyllenhal)	D,N	Stephostethus angusticollis(Gyllenhal)	D,N
		S.lardarius(Degeer)	V,N	S.lardarius(Degeer)	V,N
		Aridius nodifer(Westwood)	V,V52,N	Aridius nodifer(Westwood)	V,V52,N

Lathridius minutus(L.)	J50,V52	Scaphidema metallicum(Fabricius)	J,V52,N	A.regimbarti Schilsky	V
Enicmus histrio J&T	J50,V52,N	Alphitophagus bifasciatus(Say)	V48,J50	A.rufilabris(Gyllenhal)	R44,N
E.transversus(Olivier)	J50,V52	Tribolium confusum du Val	V,V52		
Dienerella ruficollis(Marsham)	V	Alphitobius laevigatus(Fabricius)	J		
Corticaria crenulata(Gyllenhal)	J	Corticeus bicolor(Olivier)	R,V52,N		
Corticaria elongata(Gyllenhal)	(V),J50,V52	Tenebrio molitor L.	V,V52,N,B	MORDELLIDAE	
C.impressa(Olivier)	V	T.obscurus Fabricius	V		
C.punctulata Marsham	V	Cylindrinotus laevioctostriatus(Goeze)	V,N	Mordella villosa(Schrank)	N
Corticarina fuscata(Gyllenhal)	J50,V52	Lagria hirta(L.)	V,V52,N	Mordellistena abdominalis(Fabricius)	J,V52
Corticinara gibbosa(Herbst)	R44,V52	Isomira murina(L.)	V,V52,N	M.neuwaldeggiana(Panzer)	J
		Creniopus sulphureus(L.)	J50,V52	M.pavula(Gyllenhal)	J
CISIDAE		TETRATOMIDAE		PHIPIPHORIDAE	
Octotemnus glabriculus(Gyllenhal)	V	Tetratoma fungorum Fabricius	V52	Metoecus paradoxus(L.)	C
Sulcacis affinis(Gyllenhal)	J				
Cis bidentatus(Olivier)	V	SALPINGIDAE		OEDEMERIDAE	
C.bilamellatus Wood	J,AS,V52	Salpingus castaneus(Panzer)	N	Ischnomera caerulea(L.)	J
C.boleti(Scopoli)	V,V52	Vincenzellus ruficollis(Panzer)	J,V52	Oedemera lurida(Marsham)	V,V52,N
C.fagi Waltl	V	Rhinosimus planirostris(Fabricius)	V,N		
C.hispidus(Paykull)	J50	R.ruficollis(L.)	J	MELOIDAE	
MYCETOPHAGIDAE		PYROCHROIDAE		Meloe proscarabaeus(L.)	V,V52
Pseudotriphyllus suturalis(Fabricius)	R,V52	M.violaceus Marsham			R44
Triphyllus bicolor(Fabricius)	V,V52	Pyrochroa serraticornis(Scopoli)	V,D,V52,N,B	ANTHICIDAE	
Litargus connexus(Fourcroy)	V52	MELANDRYIDAE		Notoxus monoceros(L.)	V
Mycetophagus atomarius(Fabricius)	J	Hallomenus binotatus(Quensel)	J50	Anthicus antherinus(L.)	V,N
M.multipunctatus Fabricius	J	Orchesia micans(Panzer)	J50	A.floralis(L.)	V,N
M.quadrupustulatus(L.)	V,D,V52,N	Abdera quadrifasciata(Curtis)	J50		
Typhaea stercorea(L.)	V	SCRAPTIIDAE			
COLYDIIDAE		Anaspis frontalis(L.)	V,V52		
Bitoma crenata(Fabricius)	J,V52,B	A.humeralis(Fabricius)	V52		
Aulonium trisulcum(Fourcroy)	V46,V48,J50,N	A.lurida Stephens	N		
TENEBRIONIDAE		A.maculata Fourcroy	R44,N		
Melanimon tibialis(Fabricius)	J50				

FLOWERING PLANTS, FERNS AND FERN ALLIES (Spermatophyta and Pteridophyta) Report of the Recorder

1984 was another year of active recording. The most interesting record was no doubt that of River Water-dropwort *Oenanthe fluviatilis* made by Graham Dennis in the Ouse above Bedford. This species was not infrequent at one time in the larger water-courses of the county but disappeared about thirty years ago due, it was thought, to improvements made by the water boards, although pollution could also have been a cause. It is to be hoped its welcome re-appearance may be a prelude to that of other aquatic species feared to have been lost to the county in recent years. The finding of Southern Marsh-orchid *Dactylorhiza praetermissa* by two of our ornithological members, Barry Nightingale and Barry Squires, in a very small marsh in the middle of the county adds another site to the three already known for this attractive species which it was feared was becoming extinct in Bedfordshire.

Our member Bryan Inns made the only new county record of note with a finding of a colony of White Ramping-fumitory *Fumaria capreolata* not far from his home at Stanbridge. As this species occurs regularly in the British Isles only in Cornwall and Devon, there must be some speculation with regard to its status here in Bedfordshire. While we hope it will prove to be permanent it is possible that it may be similar to the appearance of Large-flowered Hemp-nettle *Galeopsis speciosa* found by Bernard Nau in 1981 in some quantity by roadsides near Milton Bryan. This, I can now report, did not re-appear.

No additions were made to the wool-alien flora this year, due entirely to less wool waste being used as a manure on the sandy soils in the county. The refuse tips, however, continue to be profitable adding one new species, *Polygonum pennsylvanicum*, from a site near Arlesey, growing with *Ambrosia trifida* (Compositae), recorded previously only once.

At the end of 1985 it will be ten years since the recording for the Bedfordshire Plant Atlas ceased and this will be an opportune time to make another assessment of the content of the natural vegetation of the county.

JOHN G. DONY

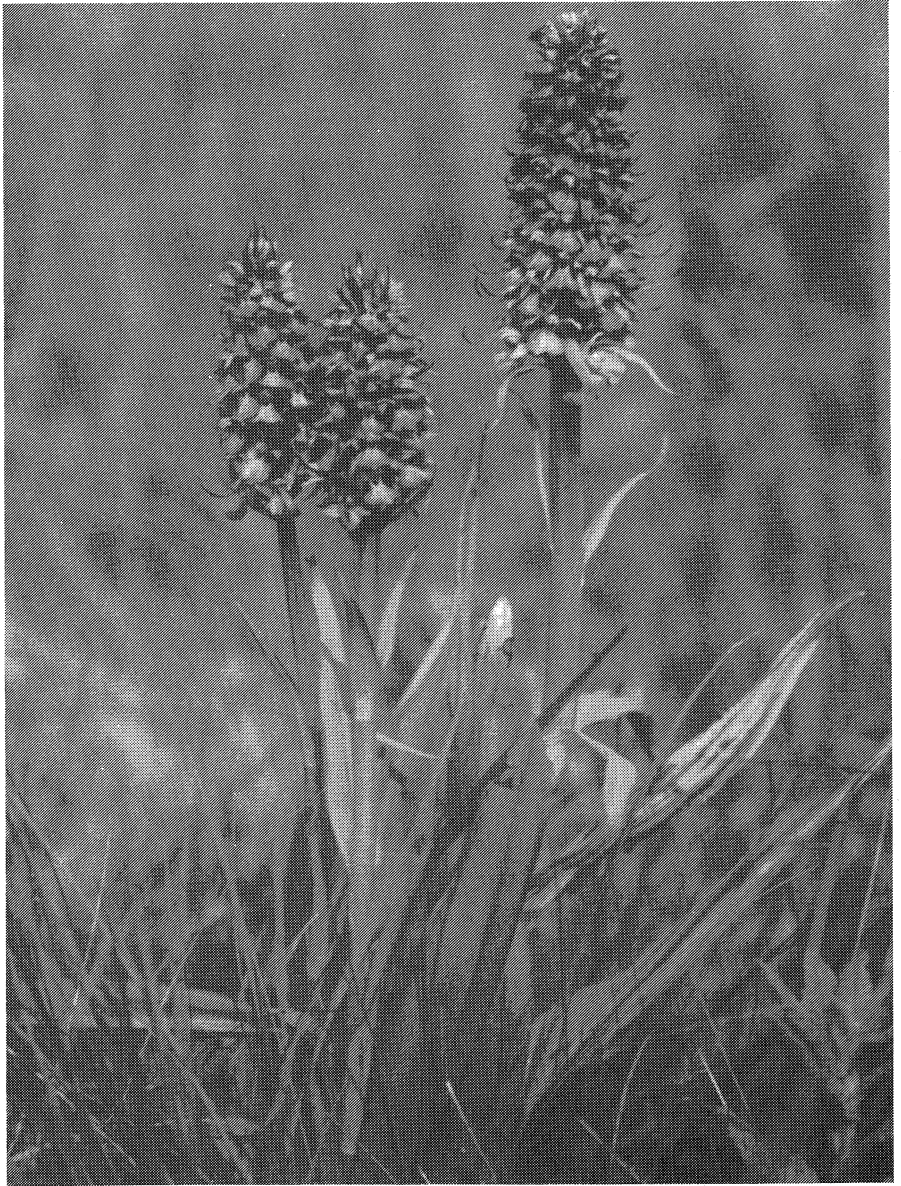
LICHENS Report of the Recorder

Due to their large size and attractive leafy rosette form, lichens of the genus *Peltigera* are often very conspicuous. The genus may be easily recognised but there have been conflicting views on the limits and taxonomic rank of several taxa. This genus is undergoing intensive revision and in many handbooks superficially similar species may share a common name.

Most species are generally found growing on the ground, amongst short grass in open dry, sometimes sandy, places, or on moss-covered rocks, boulders and trees in damp woodlands. In Bedfordshire three *Peltigera* species are commonly found, *Peltigera canina*, *Peltigera hymenina* and *Peltigera spuria*.

Peltigera canina, commonly called the Dog Lichen, has large, rounded, thin lobes and although brown when wet turns grey on drying. When present, the apothecia are large and red-brown in colour. The undersurface is pale with spike like rhizinae or projections. These rhizinae were thought to resemble the canine teeth of dogs and from these it gets its name and was at one time used as a cure for rabies. *Peltigera canina* has been found growing alongside the disused railway line near Leighton Buzzard and in the open grassy lawns of several churchyards eg. Stevington and Kensworth.

The thallus of *Peltigera spuria* is small (1-2 cm across) and grey with narrow, more erect lobes than *Peltigera canina*, and the young plants have circular grey soralia which disappear as the plant matures. This species has been found amongst mosses in a disused sand quarry near Heath and



Southern Marsh-orchid *Dactylorhiza praetermissa*

(Photo: Richard Revels)

Reach and on an old bonfire site in a neglected garden in Toddington.

Peltigera hymenina also has a grey thallus but apothecia are usually abundant and these are small, pale brown with saddle-shaped discs and found on the lobes of the thallus. This species has been found in garden lawns and alongside a footpath in Maulden Woods.

The British Isles have a fairly rich *Peltigera* flora but certain species have, however, seriously declined in recent decades due to atmospheric pollution and changes in land use. The western and northern mountainous areas of Britain still offer suitable habitats for many species and recent finds suggest that new records may be expected.

FRANCES B.M. DAVIES

MOSSES AND LIVERWORTS (Bryophyta) Report of the Recorder

During 1984 the high level of recording of the previous year was maintained and over 80% of tetrads have now received an initial survey. Fig. 1 shows the present coverage and gives an indication of the number of species recorded for each tetrad. This blanket coverage has resulted in some unexpected finds including *Leucodon sciuroides* on a tree stump at Tilsforth, *Frullania dilatata* in a hawthorn hedge at Chalton Cross and *Philonotis fontana* in a ditch at Cowbridge Farm near Toddington. For the first two of these species the records are the first in the county for 35 years whilst the *Philonotis* is normally a marsh species, which used to occur at Flitwick Moor and Totternhoe Mead but had not been seen in the county for over 100 years, apart from one recent record from the margin of the artificial lake at Sandy Warren. Equally unexpected was material of *Tetraphis pellucida* with capsules at Jackdaw Hill. This species occurs in scattered localities on the greensand in Bedfordshire but rarely produces capsules in Britain, normally reproducing by a sexual gemmae.

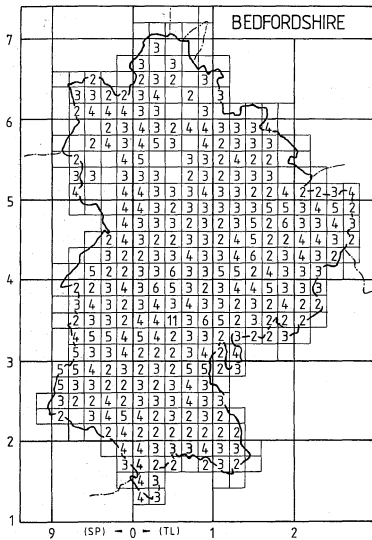


Fig. 1. Numbers of species recorded in tetrads so far worked
 2 — 20-29 species
 3 — 30-39 species etc.

A careful search of King's Wood, Heath and Reach, proved that the moss *Dicranum flagellare* and the liverwort *Chiloscyphus pallescens* still survive there and the latter was subsequently found by Dr H. Whitehouse at a second site in the county, Cockayne Hatley Wood.

Stockgrove Park produced yet another new county record, this being *Leucobryum juniperoideum*, found by M. Yeo who also added *Amblystegium humile* and *Barbula acuta* to the county list, the former from Odell Gravel Pits and the latter from a chalk slope at Barton. *Brachythecium rutabulum* is possibly the most abundant moss in the county but two rare species of this genus have recently also been found in the county; *Brachythecium mildeanum* was found by me as new to Bedfordshire in a marshy field below Shillington Church and subsequently at a number of other wet sites whilst by the roadside at Brogborough I found the first record of *B. salebrosus* in the county for over 200 years.

A search of the Grand Union Canal at Leighton Buzzard with M. Yeo revealed *Scleropodium cespitosum* on a concrete overflow and *Hygrohypnum luridum* on the concrete bank reinforcements just above water level.

Both these were in vc 24 but new to the administrative county. Subsequently M. Yeo found the *Hygrohypnum* within vc 30 on a concrete path at Barton churchyard — a most unusual habitat for a plant normally found by rivers and canals. Searches of the River Ouse have so far proved fruitless. In the course of our field work at Leighton Buzzard we had visited All Saint's churchyard but here we overlooked *Cryphaea heteromalla* a specimen of which was subsequently sent to me from this locality by Dr S. Jury. This species formerly occurred in Bedfordshire on elders on chalk and had not been seen for over 100 years having declined over much of S.E. England reputedly due to pollution.

In company with J. Milton I found *Metzgeria fruticulosa* to be a common liverwort epiphyte on elders at Hudnall Corner. This species is also new to the administrative county but is within vc 20. A number of new varietal forms have also been added to the county list, as follows:

<i>Eurhynchium praelongum</i> var <i>stokesii</i>	M. Yeo and ARO	Long Lane Tingrith
<i>E. Swartzii</i> var <i>rigidum</i>	ARO and M. Yeo	Long Lane Tingrith
<i>Pottia starkeana</i> ssp. <i>minutula</i>	ARO	St. Annes Hill Cemetery Luton
<i>Fissidens pusillus</i> var <i>pusillus</i>	ARO + M. Yeo	Stream bank, Ion Farm, Lower Gravenhurst

Last year at the Societies AGM I appealed for members to assist me in my recording by sending me samples of mosses from their gardens. I followed this up with an article in 'The Muntjac'. As a result eight members kindly responded and three of these also supplied specimens from other sites. Some useful information was obtained and I would ask other members to search their gardens for me. I am grateful to the following M. Allen, V. Arnold, B. Clutton, F. Davies, R. Hayman, Mr & Mrs G. Hooper, Dr S. Jury, the late J. Milton, M. Rowland, Dr H. Whitehouse and M. Yeo.

ALAN R. OUTEN

FUNGI

Report of the Recorder

In 1983 the British Mycological Society held its spring foray from May 20-27th at Irchester, near Wellingborough, Northants and while most of the collecting sites visited were in Northamptonshire a few excursions into Bedfordshire were made to Sharnbrook (B), Maulden Wood (M), Odell Great Wood (O) and Rowney Warren (W). The species collected during the foray were duly listed in *The Bulletin of the British Mycological Society* 18 (2) 79-86, 1984, but since it is difficult to extract the Bedfordshire records it was decided to publish these separately below.

The list is interesting on several counts; firstly, since there are no organised spring forays in the county, vernal fungi are poorly recorded and often overlooked; secondly, although agarics are essentially autumnal fungi it is surprising to find 26 species listed from Bedfordshire alone; thirdly, the fact that a visit by a large party of mycologists, including specialists in most groups of fungi, has added 70 new species to our county list and confirmed an additional four ancient records, shows just how poorly known the fungus flora really is after all these years.

MYXOMYCOTA

ACRASIOMYCETES

* *Pocheina rosea*, B.

CERATIOMYXOMYCETES

Ceratiomyxa fruticulosa, B.M.

MYXOMYCETES

Arcyria cinerea, B; *Arcyria incarnata*, M; *Arcyria pomiformis*, B; *Comatrica nigra*, B, M, O;

Craterium minutum, M; *Dictydiaethalium plumbeum*, M; *Didymium squamulosum*, O;

* *Echinostelium brooksii*, M; *Enerthenema papillatum*, B, M. *Enteridium lycoperdon*, B, M, O, W;

**Enteridium splendens*, M; *Leocarpus fragilis*, W; *Lycogala epidendrum*, B, M, O;
 **Paradiacheopsis frimbriata*, B, M, O; *Physarum leucophaeum*, M; *Physarum nutans*, M;
Stemonitis fusca, M; *Trichia affinis*, M; *Trichia botrytis*, M; *Trichia decipiens*, M; **Trichia*
floriformis, M; *Trichia persimilis*, M; *Trichia varia*, M.

DISCOMYCETES

Aleuria aurantia, B, O; *Anthracobia macrocystis*, B; *Anthracobia maurilabra*, B; **Ascobolus*
denuclatus, M; *Ascobolus furfuraceus*, O; **Calloria carneo-flavida*, O; **Calloria fusarioides*, O;
 **Cheilymenia fimicola*, O; **Cheilymenia raripila*, O; **Clavisdiscum fugiens*, M; **Colpoma*
quercinum, M; *Coprobria granulata*, O; **Cyathicula cyathoides*, B, M, O, W; **Cyathoidea*
dolosella, M; **Cyathoidea turbinata*, B; **Dasyscyphus carneolus* v. *longisporus*, M, **Dasyscyphus*
diminutus, M; **Dasyscyphus dumorum*, M; **Dasyscyphus grevillei*, M, O; M, O; **Dasyscyphus*
mollissimus, O; **Dasyscyphus nidulus*, M; *Dasyscyphus niveus*, M; **Dasyscyphus tenuissimus*, M;
Dasyscyphus virgineus, B, M; **Echinula asteriadiformis*, M; *Encoelia furfuracea*, M; *Hyaloscypha*
hyalina, M; **Hymenoscyphus repandus*, M; **Iodophanus carneus*, M; **Lachnellula subtilissima*,
 M; *Melastiza chateri*, M, O; *Mollisia cinerea*, M; **Mollisia hydrophila*, M; **Mollisia melaleuca*, B,
 M; **Mollisia urticicola*, B; **Mollisia rubi*, M; **Orbilina leucostigma*, M; *Orbilina xanthostigma*, B,
 M; *Paxina acetabulum*, M; *Peziza micropus*, M; *Peziza vesiculosa*, O; **Pezizella eburnea*, M;
Phialea cyathoidea, M; *Polydesmia pruinosa*, B, M; **Pyrenopeziza lychnidis*, O; **Pyrenopeziza*
mercurialis, B; **Saccobolus glaber*, O; *Scutellinia scutellata*, B, M, O; *Scutellinia trechispora*, M;
 **Tapesia fusca*, M; **Unguiculella hamulata*, M, O.

LOCULOASCOMYCETES

**Botryosphaeria dothidea*, M; *Gloniopsis levantica*, M; **Leptospora rubella*, M; **Melanomma*
pulvis-pyrius, M.

PYRENOMYCETES

**Bolina lutea*, M; *Chaetosphaerella phaeostroma*, M; **Chaetosphaeria myriocarpa*, M;
Daldinia concentrica, B, M, O; *Diatrype disciformis*, B, M; *Diatrype stigma*, M; **Diatrypella*
favacea, M; *Diatrypella quercina*, M; **Eutypa achari*, M; **Eutypa flavovirens*, M; *Hypoxylon*
fragiforme, B, M; *Hypoxylon fuscum*, M; *Hypoxylon multifforme*, M; *Hypoxylon rubiginosum*, M;
Hypoxylon serpens, M; † *Lasiosphaeria spermoides*, M; **Lopadostroma turgidum*, M; † *Nectria*
coccinea, M; **Nectria episphaeria*, M; **Peroneutypa heteracantha*, M; **Quaternaria quaternata*, M;
 **Rosellinia mammiformis*, B, M; **Sillia ferruginea*, O; **Tympanopsis euomphala*, M; **Xylaria*
carpophila, M; *Xylaria hypoxylon*, B, M; *Xylaria polymorpha*, B.

BASIDIOMYCETES

HETEROBASIDIOMYCETES

UREDINALES

Coleosporium tussilaginis, M; **Kuhneola uredinis*, M; **Melampsora populnea*, B, M;
Phragmidium mucronatum, M; *Puccinia caricina*, M; **Puccinia cnici*, O; *Puccinia lapsanae*, M;
Puccinia malvacearum, O; *Puccinia menthae*, M; *Puccinia poarum*, M; **Puccinia primulae*, B;
 **Puccinia pulverulenta*, O; **Puccinia punctiformis*, O; **Puccinia sessilis*, B; *Uromyces dactylidis*,
 O; **Uromyces muscari*, B, M, O.

AURICULARIALES

Auricularia auricula-judae, B; *Auricularia mesenterica*, M.

DACRYMYCETALES

Dacrymyces stillatus, B, M, O.

TREMELLALES

**Exidia plana*, B; *Myxarium nucleatum*, B, M; *Tremella mesenterica*, O.

HOMOBASIDIOMYCETES

APHYLLOPHORALES

Bjerkandera adusta, M; *Chondrostereum purpureum*, M; *Coriolus versicolor*, M; *Cristella candidissima*, M; *Cylindrobasidium evolvens*, M; *Cyphellopsis anomala*, M; *Daedaleopsis confragosa*, M, W; *Ganoderma applanatum*, B; *Hapalopilus nidulans*, B; *Heterobasidion annosum*, M; *Hymenochaete rubiginosa*, M; *Lachnella villosa*, O; **Laxitextum bicolor*, M; *Peniophora cinerea*, M; **Peniophora incarnata*, M; **Peniophora limitata*, B, M; *Peniophora quercina*, M; **Phanerochaete velutina*, M; **Phellinus ferruginosus*, B; *Piptoporus betulinus*, O; **Pistillaria uncialis*, M; *Polyporus squamosus*, O; *Radulomyces confluens*, M; *Schizopora paradoxa*, M; **Steccherinum fimbriatum*, B; *Stereum gausapatum*, M; *Stereum hirsutum*, M, O; *Stereum rugosum*, M; *Stereum sanguinolentum*, M; *Vuilleminia comedens*, M.

AGARICALES

Agrocybe dura, M; *Bolbitius vitellinus*, M; *Collybia dryophila*, W; **Coprinus cinereus*, O; *Coprinus disseminatus*, O; *Coprinus micaceus*, M; *Coprinus plicatilis*, M, O; *Coprinus radians*, B; † *Crepidotus mollis*, O; *Hypholoma fasciculare*, M, W; *Hypholoma sublateritium*, W; *Laccaria laccata*, W; *Lactarius rufus*, W; *Mycena acicula*, M; *Mycena alcalina*, B, M; *Mycena galericulata*, B, M, O; *Mycena galopus*, M; *Mycena polygramma*, M; *Mycena speirea*, B; *Mycena tenerrima*, M; *Nolanea staurospora*, M; *Pleurotus cornucopiae*, B; *Pluteus cervinus*, M, W; *Psathyrella gossypina*, M; *Suillus granulatus*, M; † *Tricholoma gambosum*, M.

GASTEROMYCETES

Lycoperdon perlatum, M; *Lycoperdon pyriforme*, M.

HYPHOMYCETES

Paecilomyces farinosus, M.

* = New county record.

† = Ancient record confirmed.

In addition to the above the following new county records have been received:

Hygrophorus flavescens, Stockgrove Park, coll. A. Outen, 13 Oct. 1984;
Inocybe microspora, Bramingham Wood, coll. A. Outen, 14 Oct. 1984;
Pluteus luteovirens, Leete Wood, Barton, coll. A. Outen, 14 Oct. 1984;
Coriolus zonatus, on *Salix* sp., Flitwick Moor, coll. G. Hooper, 8 March 1983.
Helvella elastica, Stockgrove Woods, coll. A. Outen, 13 Oct. 1984.

The Recorder wishes to thank Mr G. Hooper and Mr A. Outen for providing these data.

THE FUNGUS FORAY

The fungus foray was held at Stockgrove Country Park on September 30th with Dr D.A. Reid as leader. It was well attended, and between 50-60 members spent the day searching avidly, for what at the time seemed rather scanty specimens, although in the event a surprisingly large number of different species were collected considering the dry conditions.

Stockgrove Park is a very good area for fungi on account of the diversity of available habitats. Both coniferous and broad-leaved trees are well represented along with swampy areas with alder and sphagnum moss. In addition there is open grassland with short turf, which in places is grazed, resulting in piles of dung — a suitable habitat for many coprophilous species. These varied habitats account, at least in part, for the long list of fungi which follows.

A number of species new to the county were recorded: *Agaricus lutosus*, is a small grassland species having a whitish cap, seldom more than 2.5 cm diam., with an ochraceous centre which may be slightly scaly; the stem often narrows below but may be cylindrical, and the spores measure 4.5 x 3-3.5 μm . *Conocybe neoantipus* presents a difficulty as to the correct application of the specific name. It is taken here in the sense of Kühner (1935), but seemingly this interpretation does not accord with the original concept and the species is still without an acceptable name, despite being widespread on dung in this country. At Stockgrove it was very common on piles of horse dung; the fruitbodies which lacked a mealy smell, had small parabolic, rather dark brown, striate caps which appeared minutely hairy under a lens; tall, narrow, thin, fragile brown stems; a gill-edge with abundant skittle-shaped cheilocystidia, with tiny heads only 3.5-4.0 μm wide; and brown spores with a germ-pore — the spore shape being unusually broadly-ovate, 10-11 x 7-8 μm . Material was sent to Dr Watling at Edinburgh, since he recently published a monograph of the British species of *Conocybe*, but he too was unable to provide a name.

Species of *Hygrophorus* are almost impossible to name without recourse to a microscope. *H. flavescens* is entirely chrome-yellow, sometimes with orange tints here and there, in which the cap is viscid but the stem is dry and minutely yellow pruinose at the apex; the spores are ellipsoid-ovoid, 6.5-9 x 4-5 (5.5) μm , hyaline and non-constricted. When identifying species of *Inocybe* it is even more essential to examine them microscopically. *I. dulcamara* often found on sandy soils with *Salix*, has a yellowish-brown, felty cap, smooth, brown, bean-shaped spores and cheilocystidia comprising thin-walled, inflated, oval cells often in short chains; pleurocystidia are lacking in this species.

Lactarius cyathula is confined to alder bogs which may explain why it has only now been discovered in Bedfordshire, despite being fairly common elsewhere in such uninviting habitats. It is distinctive on account of its very small size, with the tiny, orange-brown, strongly striate, umbilicate caps only 1-2 cm across. Of the two species of *Leccium*, *L. melaneum* is best described as looking like a very dark, almost black, specimen of *L. scabrum*. By contrast *L. quercinum* is rather like *L. testaceo-scabrum*, but with a more reddish cap and brown instead of black dotted stem; the flesh of the stem becomes dark violaceous-grey on cutting, and the fungus occurs under oak.

The two species of *Leptonia* are both grassland fungi, both have the typical angled, pink spores of the Rhodophylloid type, and small umbilicate caps. *L. corvina* has a blackish felty cap contrasting with the pale pink gills, while *L. rosea* is a beautiful deep pink with pale pink gills. Both are uncommon in south east England but *L. rosea* appears to be rare throughout Britain and because of this a painting was made of the material collected. *Nolanea lucida* is another pink-spored grassland agaric with a dark sepia, hygrophanous cap, drying out pallid with a silky sheen, and having a strong mealy smell when crushed. It is very similar to *N. farinolens*, which was also collected, but has a paler cap, rounded spores with more well-marked angles and it occurs in grass as opposed to woodland.

Naucoria striatula is associated with alders in damp boggy areas. It is a "small brown fungus" with cinnamon-brown, striate cap with dark central spot, becoming paler on drying; it has abundant cheilocystidia with a swollen base and very elongated narrow neck; and almond-shaped, ornamented brown spores, 9-12 x 5-5.5 μm . *Pleurotus pulmonarius*, growing on wood, is very similar to old weathered specimens of *P. ostreatus*, differing in the thinner, whitish, more floppy cap.

Finally *Ciboria batschiana* is an easily recognized cup-fungus since it grows on blackened, mummified acorns, and produces small, stalked cinnamon-brown apothecia, up to 1.5 cm diam. However one does have to search for it on hands and knees which may well explain why it has not been found, hitherto, in Bedfordshire.

The finding of *Sphaerobolus stellatus* is of interest as it confirms a record going back to Abbot. It is a tiny "puff-ball" with pale, crowded, globular fruit-bodies, each about 2 mm across, which on maturity split to form a deep cup fringed by tiny orange star-like rays, and each containing a single spore-ball which is forcibly ejected for a distance of up to 6 feet.

Regular readers of the foray report will notice a slight change in recording the Boletes. The genus *Boletus* has been split into a number of genera which have now been widely accepted. So it

has been decided to adopt these in future foray reports. This move has been prompted by the fact that some of the *Leccinum* species have yet to be transferred to *Boletus*. The change is such that the genus *Leccinum* includes all those elegant tall Boletes with coarsely black- or brown-dotted stems such as *Boletus scaber* and its allies, while *Suillus* includes species with sticky caps such as *S. grevillei* and *S. luteus*.

To conclude — a total of 149 species were collected of which 13 are new county records and 2 confirm existing but ancient records.

* *Agaricus lutosus*; *Amanita citrina*; *A. fulva*; *A. rubescens*; *Bolbitius vitellinus*; *Boletus badius*; *B. chrysenteron*; *B. edulis*; *B. erythropus*; *B. piperatus*; *B. pruinatus*; *B. subtomentosus*; *Clitocybe clavipes*; *C. bicolor*; *C. ditopa*; *C. fragrans*; *C. infundibuliformis*; *C. odora*; *Clitopilus prunulus*; *Collybia cirrhata*; *C. dryophila*; *C. erythropoda*; *C. fusipes*; *C. maculata*, *C. peronata*; **Conocybe neoantipus*; *C. subovalis*; *Coprinus atramentarius*, *C. comatus*; *C. plicatilis*; *Cortinarius lepidopus*; *C. pseudosolor*; *Deconica crobula*; *Entoloma nidorosum*; *Galerina hypnorum*; *G. mutabilis*; *Gymnopilus hybridus*; *Hebeloma mesophaeum*; †*H. nudipes*; *Hygrophoropsis aurantiaca*; *Hygrophorus conicus*; **H. flavescens*; *Hypholoma fasciculae*; **Inocybe dulcamara*; *I. geophylla*; *I. geophylla* v. *lilacina*; *Laccaria amethystea*; *L. laccata*; *L. proxima*; *Lacrymaria velutina*; *Lactarius camphoratus*; **L. cyathula*; *L. glycosmus*; *L. quietus*; *L. tabidus*; *L. torminosus*; *L. turpis*; **Leccinum melaneum*; **L. quercinum*; *L. scabrum*; *Lepiota procera*; *Lepista nuda*; **Leptonia corvina*; **L. rosea*; *Marasmius epiphyllus*; *M. oreades*; *Melanoleuca melaleuca*; *Mycena aetites*; *M. bulbosa*; *M. candida*; *M. fibula*; *M. galericulata*; *M. galopus*; *M. leptocephala*; *M. leucogala*; *M. olivaceo-marginata*; *M. sanguinolenta*; *M. swartzii*; *M. vitilis*; **Naucoria striatula*; *Nolanea farinolens*; **N. lucida*; *Panaeolina foenesecii*; *Panaeolus semi-ovatus*; *P. sphinctrinus*; *Paxillus atrotomentosus*; *P. involutus*; *Pholiota gummosa*; **Pleurotus pulmonarius*; *Pluteus cervinus*; *Psathyrella hydrophila*; *P. squamosa*; *Psilocybe semi-lanceata*; *Russula adusta*; *R. atropurpurea*; *R. betularum*; *R. delicata*; *R. emetica*; *R. fragilis*; *R. nitida*; *R. ochroleuca*; *R. parazurea*; *R. puellaris*; *R. sororia*; *R. vesca*; *R. xerampelina*; *Stropharia semiglobata*; *Suillus grevillei*; *S. luteus*; *Tricholoma carneum*; *T. fulvum*; *Tricholomopsis rutilans*; *Tubaria furfuracea*.
Bjerkandera adusta; *Clavulina cristata*; *C. rugosa*; *Coniophora arida*; *Coriolus versicolor*; *Daedaleopsis confragosa*; *Fistulina hepatica*; *Heterobasidion annosum*; *Hyphoderma praetermissum*; *Leptotritum semipileatus*; *Meripilus giganteus*; *Piptoporus betulinus*; *Stereum hirsutum*; *S. rugosum*; *S. sanguinolentum*; *Thelephora terrestris*; *Tyromyces caesius*; *Vuilleminia comedens*.

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

Puccinia arenariae.

Bovista plumbea; *Scleroderma citrinum*; †*Sphaerobolus stellatus*; *Phallus impudicus*;

Vascellum pratense.

**Ciboria batschiana*; *Hymenoscyphus scutulus*.

Diatrype stigma; *Hypoxylon multiforme*; *Microsphaera alphitoides*; *Xylaria hypoxylon*.

Aegerita candida; **Polythrincium trifolii*; *Sepedonium chrysospermum*.

* = New county record

† = Confirmation of existing record

DEREK A. REID

SITES

Report of the Recorder

The county's mineral extraction sites continue to change. South Mills Pit has had a large area excavated and the geography of this pit has completely changed. There was some hope of a bird watching hide being placed here but there is little real prospect of this, and after excavation the pit will most likely be filled in. At Willington Gravel Pit the new excavation has started and only some of the Poplar plantation remains. At Harrold Country Park, a relatively undisturbed pit because of the lack of boating activity, some of the management plans have been initiated. Radwell Gravel Pit continues to be disturbed in the fishing season because of its open nature. The future of this lake is also in doubt.

At Barkers Lane the building of the Trust's centre has continued. This site suffers from excessive disturbance as does Stewartby Lake. In the 1960's Stewartby Lake had some very impressive duck counts, Mallard, for example, could be found in 4 figures but today one is likely to see 20. The potential wildfowl numbers at this lake can be only guessed, during quiet periods the numbers of duck dramatically increase. The land surrounding the Blue Lagoon, Arlesey has been sold and the future of this area is also in doubt as is the future of Houghton Regis Chalk Pit where it is proposed to develop an industrial park. I submitted a detailed report on the wildlife of the pit to the County Council. With Great Crested Newts a protected species under the Wildlife and Countryside Act, some of the pit must be retained.

In several Bedfordshire woodlands scarce butterflies were found (or re-found). I feel that it was an increase in observer activity that led to these interesting sightings rather than scarce species suddenly appearing in a woodland. Much of the wildlife in the county still remains to be discovered and examined.

An example of an area that was extensively studied in 1984 was Blows Downs, Dunstable. An exciting spring passage of passerines, with an exceptional number of Ring Ouzels, was discovered. Many observers visited the site daily, and often several times a day, and this blanket coverage resulted in interesting ornithological discoveries. Our knowledge of the county's wildlife depends on our recording schemes. I would still like to receive more site records from more observers. Please contact me for Site Recording Record Sheets.

DAVE ODELL

STANDARD NAMES FOR THE OPEN WATER HABITATS OF BEDFORDSHIRE

by Barry Nightingale

The following names have been adopted for use in the Bird Reports and it is hoped that other recorders will consider using them in future to avoid confusion.

Name	Grid Ref.	Previous Names and Notes
Arnolds Pit	SP 930 241	Pratts Pit
Barkers Lane	TL 076 493	Barkers Lane Gravel Pit Priory Marina Priory Park
Beeston Gravel Pit	TL 180 475	
Blue Lagoon	TL 196 343	Arlesey Pit
Blunham Lake	TL 157 512	Blunham Gravel Pits
Brogborough Lake	SP 975 395	Brogborough No. 1 Brogborough Clay Pit
Brogborough No. 2 Pit	SP 970 405	Brogborough No. 1 Marston Thrift Pit

Name	Grid Ref.	Previous Names and Notes
Chawston Pit	TL 153 565	
Chimney Corner Clay Pit	TL 037 443	Kempston Hardwick Pit
City Field Farm Pit	TL 185 375	
Cople Pit	TL 100 490	
Coronation Clay Pit	TL 035 435	
Cuckoo Bridge Pit	TL 120 510	Great Barford North Pit
Double Arches Pit	SP 940 290	
Elstow Clay Pit	TL 045 456	
Felmersham Nature Reserve	SP 990 583	
Girtford Pit	TL 160 500	For all pits in this complex east of the river.
Great Barford Pit	TL 132 508	
Grovebury Farm Pit	SP 920 230	Grovebury Road Pit
Grovebury Road Pit	SP 919 240	Rackley Hills Lagoon
Harrold Country Park	SP 958 567	Harrold Gravel Pits
Henlow Lagoon	TL 185 382	
Houghton Regis Chalk Pit	TL 008 235	
Jones Pit	SP 939 296	A5 Quarry
Langford Lakes	TL 183 397	Henlow Pits
Lidlington Clay Pit	SP 999 402	Millbrook
Mentmore Road Pit	SP 912 235	Ledburn Road Pit
Millbrook Pit	TL 006 413	Marston Moretaine Pit
Odell Lake	SP 953 573	
Quest Pit	TL 028 420	
Radwell Gravel Pit	TL 015 575	
Rookery Pit	TL 018 418	
Roxton Lake	TL 156 536	
South Mills Pit	TL 154 500	Girtford Gravel Pits. For all areas in this complex west of the river.
Stanford Pit	TL 159 408	
Stewartby Lake	TL 005 425	
Tiddenfoot Pit	SP 915 238	
Twin Bridges Pit	TL 158 517	Blunham Gravel Pits
Vicarage Farm Pit	TL 015 435	'L' Field Pit
Willington Gravel Pit	TL 105 505	
Wyboston Lakes	TL 175 575	

Address: 9 Duck End Lane, Maulden, Bedford MK45 2DL

ABSTRACTS OF LITERATURE ON BEDFORDSHIRE NATURAL HISTORY

The *Bedfordshire Naturalist* No. 1 to 13 contained abstracts of literature up to and including 1958. Coverage varied from year to year and included here are botanical abstracts from 1946 to 1959 which have not appeared.

1. Botanical Exchange Club Reports

- (a) WALTERS, S.M. 1946 Observations on varieties of *Viola odorata* L. *BEC 1943-44 Rep.* 12 (6) 834-839. Reference to those varieties occurring in Bedfordshire.
- (b) NELMES, E. 1947 Two critical groups of British sedges. *BEC 1945 Rep.* 13 (1) 95-105. Discussion of the *Carex flava* L. (agg.) and the *C. muricata* L. (agg.). Bedfordshire records of *C. lepidocarpa* Tausch, *C. divulsa* Stokes in With., *C. pairaei* F. Schultz and *C. spicata* Huds.
- (c) DONY, J.G. 1948 *Panicum capillare* L. var *occidentale* Rydb. In: Plant Notes. *BEC 1946-47 Rep.* 13 (3) 278. Report of first Bedfordshire record from Sandy.

2. Watsonia

- (a) MEIKLE, R.D. 1952 *Salix calodendron* Wimm in Britain. *Watsonia* 2 (4) 243-248. Status and description with an 1890's record from Turvey cited.
- (b) YOUNG, D.P. 1952 Studies in the British *Epipactis*. *Watsonia* 2 (4) 253-276. Reference is made to Bedfordshire colonies of *E. phyllanthes* G.E.Sm.
- (c) ALLEN, D.E. 1953 *Cochlearia danica* L. In: Plant notes. *Watsonia* 2 (6) 411. The inland distribution discussed with reference to several Bedfordshire stations.
- (d) WALTERS, S.M. 1953 *Montia fontana* L. *Watsonia* 3 (1) 1-6. A study of this complex species with British distribution including Bedfordshire.
- (e) PUGH, J.P. 1953 The distribution of *Dryopteris borreri* Neum. in the British Isles. *Watsonia* 3 (1) 57-65. Mention is made of a few Bedfordshire stations.
- (f) DAVIES, E.W. 1953 Notes on *Carex flava* and its allies. II *Carex lepidocarpa* in the British Isles. *Watsonia* 3 (1) 70-73. Mention is made of a Bedfordshire record at Totternhoe.
- (g) DAVIES, E.W. 1955 The cytogenetics of *Carex flava* and its allies. *Watsonia* 3 (3) 129-137. Mention is made of a hybrid from Totternhoe (*C. distans* x *lepidocarpa*).
- (h) RICHENS, R.H. 1955 Studies on *Ulmus*: 1. The range of variation of East Anglian elms. *Watsonia* 3 (3) 138-153. A taxonomic study of the elms in National Grid Square 52 (TL). Some samples taken from Bedfordshire sites.
- (i) WADE, A.E. 1958 The history of *Symphytum asperum* Lepech. and *S. x uplandicum* Nyman in Britain. *Watsonia* 4 (3) 117-118. Includes vice-county distribution with vc 30 Beds mentioned.
- (j) PRITCHARD, N.M. 1959 *Gentianella* in Britain. *Watsonia* 4 (4) 169-193. A taxonomic discussion with reference to material from Bedfordshire.

3. Proceedings of the Botanical Society of the British Isles

- (a) DONY, J.G. 1954 *Cyperus rotundus* L. In: Plant notes. *Proc. BSBI* 1 (2) 159. First record for Bedfordshire.
- (b) NELMES, E. 1955 *Carex hostiana* in Bedfordshire. *Proc. BSBI* 1 (3) 314-315. An account of an excursion to Totternhoe in search of this species with a description of its possible hybrid with *C. lepidocarpa*.
- (c) KENT, D.H. 1955 *Lagarosiphon major* (Ridley) C.E.Moss. *Proc. BSBI* 1 (3) 322-323. Brief description of this aqurist's escape with mention of its presence in Arlesey.
- (d) DONY, J.G. 1955 *Hordeum leporinum* Link., *H. glaucum* Steud. and *H. pusillum* var *pubens* Hitchcock. *Proc. BSBI* 1 (3) 323-324. An account of Bedfordshire records of these three grass species.

- (e) PERRING, F.H. 1956 *Spiranthes spiralis* (L.) Chevall in Britain, 1955. *Proc. BSBI* 2 (1) 6-9. An account of the distribution in the year 1955 including the Bedfordshire colony.
- (f) PERRING, F.H. 1956 *Vicia lutea* and *Vicia hybrida*. In: Plant notes. *Proc. BSBI* 2 (2) 135. Reference to a specimen of *V. hybrida* L. in Cambridge University Herbarium.
- (g) BANGERTER, E.B. and KENT, D.H. 1957 *Veronica filiformis* Sm. in the British Isles. *Proc. BSBI* 2 (3) 197-217. An account of the spread of this rock-garden escape with its distribution including Bedfordshire.
- (h) WALLACE, E.C. 1957 Plant records. *Proc. BSBI* 2 (3) 245-268. Contains a record of *Convallaria majalis* from near Everton.
- (i) KENT, D.H. 1958 *Eleusine africana* O'Byrne. In: Plant notes. *Proc. BSBI* 3(1) 50. Records of a wool alien from Bedfordshire and elsewhere.
- (j) LOUSLEY, J.E. 1958 *Cynodon incompletus* Nees. In: Plant notes. *Proc. BSBI* 3 (1) 50. A wool alien found at Flitwick.
- (k) WALLACE, E.C. 1959 Plant records. *Proc. BSBI* 3 (2) 181-203. Includes a few records from Bedfordshire.
- (l) MELVILLE, R. 1959 *Erodium crinitum* Carolin. In: Plant notes. *Proc. BSBI* 3(3) 284-285. A description of this wool alien from Australia with several records from Bedfordshire.
- (m) WALLACE, E.C. 1959 Plant records. *Proc. BSBI* 3 (3) 291-300. Contains the first Bedfordshire record of *Stachys annua* from near Barton.

4. Bedfordshire Magazine

- (a) O'DELL, I.J. 1948 Barton in the Clay. *Beds. Mag.* 1 (3) 91-97. Includes brief notes on the more interesting wild flowers in the parish.
- (b) TIBBUTT, H.G. 1948 The herb farms of Ampthill. *Beds. Mag.* 1 (3) 115-116. Mention is made of the growing of medicinal and other plants in Ampthill during the second half of the 19th Century. Species included are beladonna, henbane, foxglove, lavender, squirting cucumber and poppies.
- (c) DAY, G.H. 1948 Harrold. *Beds. Mag.* 1 (5) 185-189. Includes brief notes on the wild flowers of the parish including *Falcaria vulgaris*.
- (d) DONY, J.G. and LOUSLEY, J.E. 1952. The travels of plants. *Beds. Mag.* 3 (21) 185-189. An account of wool shoddy as a source of alien plants in the fields of Bedfordshire.

5. Books etc.

- (a) LOUSLEY, J.E. 1950 *Flowers of chalk and limestone*. Collins New Naturalist xvi + 254 pp. Contains a section on the chalk flora of Bedfordshire with a few photographs taken in the county.
- (b) SUMMERHAYES, V.S. 1951 *Wild Orchids of Britain*. Collins New Naturalist xviii + 366 pp. Several mentions of the orchids of Bedfordshire with three photographs taken in the county.
- (c) DONY, J.G. 1953 *Flora of Bedfordshire*. Luton Museum 532 pp. A full account of the botany of the county.
- (d) DONY, J.G. 1953 Wool aliens in Bedfordshire (Exhibit). In: LOUSLEY, J.E. (Ed.) *The changing flora of Britain*. BSBI 160-163. A list of the wool alien species recorded in the county with their countries of origin.
- (e) WATSON, W.C.R. 1958 *Handbook of the Rubi of Great Britain and Ireland*. CUP xii + 274 pp. The first comprehensive account of the species and microspecies of the genus *Rubus*, with distributions. These include many Bedfordshire localities.
- (f) DONY, J.G. 1959 *Comparative plant records for Hertfordshire and Bedfordshire*. Priv. pub. 4 pp. Lists of plants known in Bedfordshire but not in Hertfordshire and vice versa, also those possibly extinct in both counties.

RECORDERS

Meteorology: Mr M. C. Williams, 2 Ivel Close, Barton-le-Clay, Bedford MK45 4NT

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Slugs, Snails and Leeches: Mrs E.B. Rands, 51 Wychwood Avenue, Luton, Beds. LU2 7HT

Spiders and Harvestmen: Mr T. J. Thomas, 142 Selbourne Road, Luton, Beds. LU4 8LS

Dragonflies: Dr N. Dawson, 2, The Old House, Ickwell Green, Biggleswade, Beds. SG18 9EE

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Lacewing Flies: Dr. B. Verdcourt, The Herbarium, Royal Botanic Gardens, Kew, Richmond,
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Moths (macro): Mr V.W. Arnold, 96 St. Augustines Avenue, Luton, Beds. LU3 1QE

Hoverflies: Dr N.F. Janes, 82 Marston Gardens, Luton, Beds. LU2 7DY

Bees, Wasps, Ants etc: vacant

Ladybird Beetles: vacant

Woodlice, Centipedes, and Millipedes: Dr A.J. Rundle, 29 Burlington Avenue, Kew, Richmond,
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Flowering Plants, Ferns and Fern Allies: Dr. J.G. Dony, 9 Stanton Road, Luton, Beds LU4 0BH

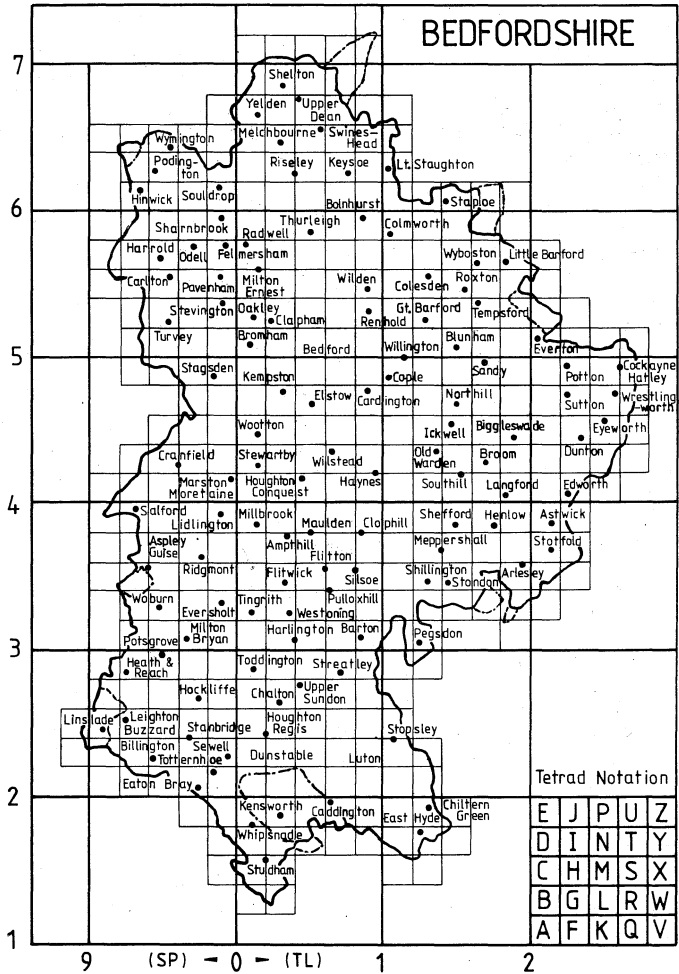
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Tetrad map of Bedfordshire showing the main towns and villages

Price: £3.00 (including postage) from the Membership Secretary, "Owlswood", 4 Oakley Road, Bromham, Bedford MK43 8HY (Cheques payable to Bedfordshire Natural History Society)

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