

# The **BEDFORDSHIRE NATURALIST**

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THE  
JOURNAL  
OF THE  
**BEDFORDSHIRE  
NATURAL HISTORY SOCIETY**  
FOR THE YEAR  
**1970**

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# THE BEDFORDSHIRE NATURALIST

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OF THE  
BEDFORDSHIRE NATURAL HISTORY SOCIETY

EDITED BY B. SQUIRES

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NO. 25 1970

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# BEDFORDSHIRE NATURAL HISTORY SOCIETY

1971

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RECORDERS

BOTANY :

*Fungi :*

Dr. D. A. Reid, The Herbarium, Royal Botanic Gardens, Kew.

*Except Fungi :* Dr. J. G. Dony, 9 Stanton Road, Luton.

METEOROLOGY :

A. W. Guppy, 22 Poplar Avenue, Bedford.

ZOOLOGY :

*Bees, Wasps and other Hymenoptera :*

Dr. V. H. Chambers, 12 Douglas Road, Harpenden, Herts.

*Butterflies and Moths :* W. J. Champkin, 59 Rosamond Road, Bedford.

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*Birds :* J. N. Dymond, 91 Putnoe Lane, Bedford.

*Mammals :* D. Anderson, 51 Springfield Crescent, Harpenden, Herts.

*Mollusca :* Mrs. E. B. Rands, 51 Wychwood Avenue, Luton.

## BEDFORDSHIRE NATURAL HISTORY SOCIETY

### RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1970

RECEIPTS		£		£		PAYMENTS		£		£	
1969						1969					
34	Cash in Bank and in Hand,					68	Printing, Postage and Stationery	....	....	29	7 3
	1st January, 1970	....	....	106	8 10	108	Beds. Naturalist Journal	....	....	—	—
	Subscriptions :					3	Subscriptions and Donations to other	....	....		
	Life Members	....	....	—	—		Societies	....	....	6	1 6
177	For 1970 and Earlier	....	....	211	3 6	15	Hire of Halls and Rooms	....	....	7	16 8
19	For 1971	....	....	8	7 6		Booking Fees	....	....	9	0 0
196				219	11 0		Film Shows	....	....	114	14 8
2	Sale of Journal	....	....	1	5 0		Permits	....	....	8	10 0
	Collections at Meetings	....	....	5	3 0		Printing Programmes, Forms and Cards	....	....	45	16 9
	Copy of Volume 23 Beds.					1	Sundry Expenses	....	....	4	7 6
	Naturalist	....	....	0	15 0		Auditor A/c for December 1969	....	....	9	8 0
	Payment in Respect of						Display Board	....	....	32	4 10
	Permits for Minsmere	....	....	7	10 0	91	Cash at Bank, 31st December, 1970	....	....	235	11 9
	Re Ouse. Marsh Permits	....	....	8	10 0	15	Cash in Hand, 31st December, 1970	....	....	19	5 4
	Extra Copies of Journal	....	....	4	15 0						
65	Film Shows	....	....	162	15 4						
	Refund Deposit Civil										
	Theatre	....	....	2	16 0						
	Refund on Display Board	....	....	2	15 1						
2	Donations	....	....	—	—						
2	Xmas Social	....	....	—	—						
				£522	4 3	£301				£522	4 3

J. M. DYMOND, *Honorary Treasurer*

I have examined the above Receipts and Payments Account which are in agreement with the books and vouchers of the Society.

LEIGHTON BUZZARD.

8th March, 1971.

P. SMITH, A.R.I.C.S.,

*Honorary Auditor.*

# REPORT OF THE COUNCIL

With public interest high during European Conservation Year, the Society can justifiably claim to have turned the corner and can report a year of progress. The six council meetings have been well attended and the constructive efforts of your Officers and Council well rewarded.

The ten field meetings were satisfactorily attended and generally successful, particularly those at the R.S.P.B. reserves on the Ouse Washes and at Minsmere. It is regrettable, however, that it was necessary to cancel the coach outings to the Norfolk Coast due to lack of support and our apologies are offered to those few members who were disappointed. We record an increase in attendances at indoor meetings and, of more significance, the introduction of monthly meetings in Dunstable during the winter months. This is indicative of the increasing support and interest in the south of the County. The joint film show with the R.S.P.B. in Dunstable was again attended by over 600 people and was generally a great success although recruitment was a little disappointing.

Membership has increased again this year and we have high hopes that this trend will continue. The Publicity Committee have produced an attractive illustrated leaflet/membership form which should prove beneficial in our continuing drive for new members. The point must be made, however, that increased membership does not automatically bring success — we badly need more support from members who are willing to make some practical contribution, such as leading meetings, distributing posters or even addressing envelopes. If you can spare a little time please contact me.

Before the end of the year, Mr. J. N. Dymond resigned as Editor and Mr. B. Squires was appointed to this office; Mr. J. N. Dymond succeeding Mr. A. J. Livett as Recorder for Birds.

Our Librarian, Mr. R. B. Stephenson, has been industrious in resurrecting the Society's library and it is hoped that members will make full use of this facility.

The Putnoe Wood activity has gone from strength to strength due to the untiring efforts of the Scientific Committee. An agreement reached with the owners for conservation work to be carried out in Hardwick Spinney is encouraging.

Your Council is aware of the need for more active scientific field-work and it is their intention to promote an increase in this aspect of the Society's work in 1971.

D. GREEN, *Hon. Secretary.*

## PROCEEDINGS

### INDOOR MEETINGS

250th ORDINARY MEETING, 6th January, Luton. Mr. A. R. W. Griffin gave a lecture entitled 'The Natural History of Social Insects'. He dealt mainly with insects within the Order Hymenoptera, with particular reference to Honey Bees and Wasps. A most interesting and informative lecture illustrated with colour slides. Attendance 13. *Chairman* : D. Green.

251st ORDINARY MEETING, 22nd January, Bedford. Mr. H. A. S. Key presented 'A Scandinavian Evening'. A very successful evening with a wealth of good colour slides taken by Mr. Key in Iceland and Greenland. A long interval mid-way through made an enjoyable social occasion with lavish refreshments, supplied by Mrs. Key and Mrs. Sharman, which were much appreciated. Attendance 85. *Chairman* : F. G. R. Soper.

252nd ORDINARY MEETING, 4th February, Luton. Informal evening. To commence, Mrs. Rands showed part of her large collection of land, freshwater and marine snail shells. This was followed by colour slides taken by Mr. A. G. Ford of Fungi and Orchids. Attendance 14. *Chairman* : R. V. A. Wagstaff.

253rd ORDINARY MEETING, 26th February, Bedford. Mr. K. Clark of the British Trust for Ornithology presented 'Oliver Pike's collection of slides', an interesting evening enhanced by stimulating comments from the Speaker. Attendance approx. 50. *Chairman* : J. N. Dymond.

254th ORDINARY MEETING, 5th March, Luton. Owing to the severe weather conditions the Speaker, Mr. B. B. West, who was to have lectured on 'The Butterflies of Bedfordshire', was unable to attend. Mr. A. G. Ford kindly filled in at short notice with slides of his trip to Norway. Attendance 8. *Chairman* : S. W. Rodell.

23rd ANNUAL GENERAL MEETING, 19th March, Bedford. Attendance 42. *Chairman* : Dr. D. M. Jeffreys.

PUBLIC FILM SHOW, 15th October, Dunstable. A joint venture of the B.N.H.S. and the R.S.P.B. held at the Queensway Hall. An audience of just over 600 saw two very impressive newly-released R.S.P.B. films — 'The Winged Aristocrats' — about the birds of prey found in Europe — and 'Birds of the Grey Wind' — depicting typical birds found in Ireland. *Chairman* : Mrs. N. Smith (R.S.P.B.). B.N.H.S. Speaker : R. V. A. Wagstaff.

255th ORDINARY MEETING, 22nd October, Bedford. Lecture entitled 'Fresh Hope for Fresh Water' by Mr. T. C. Stark and Mr. R. Price, Biologists of the Great Ouse River Authority. Attendance 20. *Chairman* : F. G. R. Soper.

256th ORDINARY MEETING, 12th November, Dunstable. A lecture entitled 'The Butterflies of Bedfordshire' by Mr. B. B. West, who gave a comprehensive survey of our butterflies, freely illustrated with colour slides. An instructive and entertaining evening. Attendance 25. *Chairman* : S. W. Rodell.

257th ORDINARY MEETING, 25th November, Luton. Dr. J. G. Dony gave a fascinating lecture about the foreign plants to be found in Bedfordshire, entitled 'The Alien Flora of Bedfordshire'. Attendance 23. *Chairman* : D. Green.

258th ORDINARY MEETING, 26th November, Bedford. Four films were enjoyed by all present — 'Badgers and their Cubs', 'Flight to Adventure', 'Great Barrier Reef' and 'Look Down'. Attendance 25. *Chairman* : Dr. D. M. Jeffreys.

259th ORDINARY MEETING, 10th December, Dunstable. Four members of the Bletchley and Milton Keynes Natural History Society gave an illustrated talk on the natural history of North Bucks. Attendance 15. *Chairman* : D. Green.

260th ORDINARY MEETING, 17th December, Bedford. Mr. J. N. Dymond gave a fascinating lecture entitled 'To the Caspian Sea for Birds'. Attendance approx. 40. *Chairman* : Dr. D. M. Jeffreys.

## FIELD MEETINGS

SUNDAY, 11th JANUARY. OUSE WASHES RESERVE. *Leader* : D. Green. Despite a rather dull and drizzly day, the party enjoyed an excellent day bird-watching, notable species being Wigeon (c10,000), Teal, Pintail, Goldeneye, Goosander and all three species of swan — with c350 Bewick's and 7 Whooper. A party of 7 Twite flew over. The Warden, Mr. Jeremy

Sorensen, escorted the members and helped to make it a most interesting day. Attendance 18.

SUNDAY, 22nd FEBRUARY. BARTON HILLS. *Leader*: B. Squires. Unfortunately bird life was rather sparse and only Fieldfare, Redwing, Redpoll, Kestrel, Collared Dove and a Grey Wagtail were of note. A few Grey Squirrels were seen. After lunch some of the party moved on to Maulden Woods, seeing small numbers of common woodland birds, and subsequently to Stewartby Lake, which produced 5 Goldeneye and a flock of 54 Wigeon. Attendance 13.

SUNDAY, 26th APRIL. MAULDEN WOODS. Botanical and Ornithological meeting. In cold weather, after heavy rain during the previous 24 hours, the party, which included a welcome infusion of new members, and at times an uninvited quadruped, walked through the wood, following in parts the Forestry Commission nature trail. The few birds which were in evidence included Nuthatch, Tree Sparrow, Goldcrest and four members of the tit family — Marsh, Coal, Great and Blue. A Cuckoo was heard and some members saw a Muntjac Deer. Attendance 40. *Leader*: J. M. Dymond.

WEDNESDAY, 13th MAY. GRAND UNION CANAL, adjacent to Tring Reservoirs. *Leader*: Mrs. E. B. Rands. An evening snail-hunt. 27 species of mollusca were found during the evening, two of which were new to the 10 Km. square. Attendance 21.

SUNDAY, 17th MAY. MINSMERE RESERVE. *Leader*: B. Squires. The members who attended this meeting, on a rather cold and windy day, were rewarded with good views of a large and interesting variety of birds; the most spectacular being a Little Egret and an Osprey. Also seen were Garganey, Marsh Harrier, Black-tailed Godwit, Avocet, Little Gull, Black Tern, Red-backed Shrike, Nightingale, Bearded Tit etc. Attendance 15.

THURSDAY, 28th MAY. THE LODGE, SANDY. *Leader*: D. Elias, the R.S.P.B. Warden. A general lack of bird song and poor weather made this meeting rather mediocre. One Nightjar was heard. Attendance 40.

SUNDAY, 31st MAY. Coach outing to Norfolk coast cancelled due to lack of support.

SUNDAY, 14th JUNE. OUSE WASHES RESERVE. *Leader*: D. Green. With breeding in full swing, members noticed a marked contrast in bird life compared with the visit in January. Good views were obtained of Black-tailed Godwits, of which approximately 40 pairs were thought to be breeding. Other species of note were Marsh Harrier, Spotted Redshank, Ruff and Gadwall. Attendance 17.

THURSDAY, 2nd JULY. LEETE WOOD, BARTON. *Leader*: Dr. J. G. Dony. Botanical. It was a dull and cloudy evening, turning cold for the time of the year. Leete Wood, probably the oldest wood on the chalk in Bedfordshire, produced no plants not already known there except *Creptis biennis*. An enjoyable and worthwhile evening. Attendance 15.

SUNDAY, 13th SEPTEMBER. NORTH NORFOLK COAST. *Leader*: D. Green. Ornithological. This was originally to be a coach outing but it was decided to revert to cars after the failure of the outing in May. Members spent a sunny morning at Cley where a good variety of species was observed, the highlights being Great and Arctic Skuas and Manx Shearwater. A visit was made to the reserve at Holme in the afternoon where good views were obtained of Bar-tailed Godwit. Attendance 3.

SUNDAY, 25th OCTOBER. FUNGUS FORAY AT THE LODGE, SANDY. *Leader*: Dr. D. A. Reid. Joint meeting with the British Mycological Society. Attendance 30. (See below for a detailed account.)

## THE FUNGUS FORAY

The annual fungus foray was held at the Lodge, Sandy, on Sunday, 25th October with Dr. D. A. Reid of Kew, as leader. Although the weather was overcast about 20 people attended.

Unfortunately, owing to the previous spell of dry weather fungi were scarce, but even so 83 species were collected, of which 8 were new to the county

One of the most interesting finds was a rather poor specimen of *Amanita gemmata*. This species has a pale creamy-yellow cap and a short bulbous stipe with a fugacious or rudimentary annulus. *Mycena carnicolor* was another unusual fungus found on the lawns near the house. It is recognised by its small turbinate, rose-pink fruitbodies with decurrent gills. Also found on the lawns were specimens of *Hygrophorus unguinosus*. These caused some interest on account of the fact that both the dark grey cap and stipe are extremely slimy. *H. langei* was also found; it has a persistently acutely conical golden or lemon-yellow cap which may be tinged with orange, and concolorous or yellow stem and gills. This species reminds one of *H. conicus* and its allies but unlike them it does not blacken on bruising. A solitary specimen of *Mycena vulgaris* was also gathered and despite its rather drab grey-brown colour this uncommon fungus may be easily recognised by having more or less horizontal gills, and a gelatinous surface to both cap and stem as well as a gelatinous gill edge. *Paxillus panuoides* — another interesting species was found on coniferous wood. It produces fan-shaped, laterally attached fruitbodies resembling those of a *Pleurotus* sp. but the yellowish gills are forked and wavy and the spores are brown.

\**Amanita gemmata* (Fr.) Gillet; *A. muscaria* (L. ex Fr.) Hooker; *A. rubescens* ([Pers.] Fr.) S. F. Gray; *A. vaginata* (Bull. ex Fr.) Vitt.; *Boletus badius* Fr.; *B. chrysenteron* Bull. ex St. Amans; *B. elegans* Schum. ex Fr.; *B. luteus* L. ex Fr.; *B. piperatus* Bull. ex Fr.; *Clitocybe brumalis* (Fr.) Quél.; *C. clavipes* (Pers. ex Fr.) Kummer; *C. hydrogramma* (Bull. ex Fr.) Kummer; *C. infundibuliformis* (Schaeff. ex Weinm.) Quél.; *C. vibecina* (Fr.) Quél.; *Collybia carbonaria* (Vel.) Orton; *C. maculata* (Alb. & Schw. ex Fr.) Kummer; *C. peronata* (Bolt. ex Fr.) Kummer; *Conocybe togularis* (Bull. ex Fr.) Kühn.; *Cystoderma amianthinum* ([Scop.] Fr.) Fayod; *Deconica crobulus* (Fr.) Romag.; *Dermoloma atrocinerum* (Pers. ex Pers.) Orton; *Eccilia sericeonitida* Orton [= *E. undata* (Fr.) Quél.]; *Galerina clavata* (Vel.) Kühn.; *Gymnopilus penetrans* (Fr. ex Fr.) Murr.; *Hebeloma crustuliniforme* (Bull. ex St. Amans) Quél.; *Hygrophoropsis aurantiaca* ([Wulf.] Fr.) Maire apud Martin-Sans; \**Hygrophorus langei* (Kühn.) Pearson; *H. niveus* [Scop.] Fr.; *H. psittacinus* (Schaeff. ex Fr.) Fr.; *H. pratensis* (Pers. ex Fr.) Fr.; *H. reai* Maire; \**H. unguinosus* (Fr.) Fr.; *Hypholoma fasciculare* (Huds. ex Fr.) Kummer; *Laccaria amethystea* (Bull. ex Mérat) Murr.; *L. laccata* (Scop. ex Fr.) Cooke; *L. proxima* (Boud.) Pat.; *Lactarius rufus* (Scop. ex Fr.) Fr.; *L. turpis* (Weinm.) Fr.; *Lepista nuda* (Bull. ex Fr.) Cooke; *Marasmius androsaceus* (L. ex Fr.) Fr.; *M. oreades* (Bolt. ex Fr.) Fr.; \**Mycena carnicolor* Orton [= *Omphalina rosella* (Lange) Moser apud Gams]; *M. epipterygia* (Scop. ex Fr.) S. F. Gray; *M. fibula* (Bull. ex Fr.) Kühn.; *M. galericulata* (Scop. ex Fr.) S. F. Gray; *M. galopus* (Pers. ex Fr.) Kummer; *M. swartzii* (Fr. ex Fr.) A. H. Smith; \**M. vulgaris* (Pers. ex Fr.) Kummer; *Nolanea stauropora* Bres.; *Panaeolina foemiseccii* (Pers. ex Fr.) Maire; *Paxillus involutus* (Batsch ex Fr.) Fr.; \**P. panuoides* (Fr. ex Fr.) Fr.; *Pholiota squarrosa* (Müller ex Fr.) Kummer; *Psathyrella hydrophila* (Bull. ex Mérat) Maire; *Ripartites tricholoma* (Alb. & Schw. ex Fr.) Karst.; *Russula ochroleuca* (Pers. ex Secr.) Fr.; *R. parazurea* J. Schaeff.; *Tricholoma carneum* (Bull. ex Fr.) Kummer.



*Antrodia mollis* (Sommerf.) Karst.; *Coriolus versicolor* (L. ex Fr.) Quél.; *Heterobasidium annosum* (Fr.) Bref.; *Piptoporus betulinus* (Bull. ex Fr.) Karst.; *Tyromyces sericeomollis* (Rom.) Bond & Sing.

*Clavulinopsis corniculata* (Fr.) Corner.

*Serpula himantioides* (Fr.) Bond.; *Sparassis crispa* [Wulf.] Fr.; *Thelephora terrestris*.

*Calvatia excipuliformis* (Schaeff. ex Pers.) Perd.; *C. utriformis* (Bull. ex Pers.) Jaap [= *C. caelata* (Bull.) Morgan]; *Lycoperdon foetidum* Bon. [*L. perlatum* var. *nigrescens* Pers.] *L. perlatum* Pers.; \**L. spadiceum* Pers.; *Scleroderma citrinum* Pers. [= *S. aurantium* (L.) Pers.; *S. vulgare* Hornem].

*Calocera viscosa* (Pers.) Fr.

*Aleuria aurantia* (Fr.) Fuckel.

*Xylaria hypoxylon* [L.] Dumort.

*Ptychogaster albus* Corda.

\**Diderma deplanatum* Fr.; *Fuligo septica* Gmel.; *Perichaena depressa* Libert; *Physarum nutans* Pers.; *Reticularia lycoperdon* Bull.; *Tubifera ferruginosa* Gmel.

\*=New County Record.

DEREK A. REID.

# REPORTS OF RECORDERS

## BOTANY

1970 was a good year for plant recording in the County and since no new native or colonist species were recorded it is reasonably safe to assume that the natural vegetation is almost completely documented. The most noteworthy discovery was *Bromus arvensis* L. at Dunton where it was probably first introduced with a fodder crop but is now well established on a field border — all previous records were dubious. Even more satisfactory was the finding of one plant of Pheasant's-eye (*Adonis annua* L.) in its previous station at Pegsdon where I had not seen it for about twenty years and had feared it was extinct.

Naturalists' gardens were productive of additions to the flora. Mr. W. R. Stevens noted a peculiar plant in his garden at Barton which he allowed to grow on and which proved to be *Crepis setosa* Haller f., found only a few times before in the County. Mr. G. Clark drew my attention to Fringecups (*Tellima grandiflora* Pursh.) Dougl. growing spontaneously in his garden at Oldhill Wood.

Rubbish dumps added new casuals, with *Eruca sativa* Mill. and *Trachyspermum ammi* (L.) Sprague from Bedford R.D.C. tip at Bromham which also had a number of species which we had previously thought were wool adventives only. Leighton Buzzard tip at Shenley Hill added *Calendula arvensis* L.

Messrs. E. Clement and B. T. Ryves came again, to find still more wool adventives in *Urocarpidium shepardae* (Johnst.) Knaper, *Amellus microglossus* DC., and *Bromus lanceolatus* Roth. subsp. *languinosus* (Poir.) Dinam. The last-named is a grass, as are the following which my wife and I have found in recent years but which were not determined by Dr. C. E. Hubbard until this year: *Eragrostis lehmanniana* Nees., *E. schweinfurthii* Chiov., *Poa schimperiana* A. Rich., and *Stipa falcata* Hughes. We also added *Erodium gruinum* (L.) L'Herit. this year.

J. G. DONY.

## METEOROLOGY

The year 1970 began with a week of cold frosty weather, and some snow, but the rest of January was dull, rainy and free from frosts. Wintry conditions were thereafter confined to two periods, one in the middle of February, with cold northerly winds, hard frosts and some snow, and the other a fortnight later, with a blizzard on 4th March, again accompanied by severe night frosts. After the 10th these were replaced by milder, wet weather for the rest of the month. The first ten days of April saw a reversion to chilly conditions and snow showers, but the remainder of the month was mild and unsettled.

May began with a week of fine warm weather, but the middle of the month was cloudy and cool under the influence of northerly winds. On 23rd May a period of about a month of fair weather was established, but the last week of June was unsettled, and this applied to most of July as well. The hottest day of the year, 7th July, was a very short-lived heat-wave; the heavy thunderstorms of the following day marked a transition to much cooler conditions, which then persisted for the rest of the month.

August was fine for the first week and for the last five days, but otherwise it was rather cloudy. Late September had some pleasantly warm days, particularly the 20th and 28th with 25° C. and the 24th and 25th with 24° C. Mid-October had more than its usual amounts of fog, and the rest of the month was dry and rather cloudy, without any unusual temperatures.

November was very wet, and the disturbed weather continued over the first week of December. A very intense anti-cyclone gave a few days of quite foggy weather at mid-month, but the year closed with an intensely cold week of north-east winds and severe frosts, persisting throughout the day on the 27th.

Despite considerable deviations from normal for certain months, the year's RAINFALL, as a whole, was only slightly above average. In contrast to the wet May of 1969, this year's was unusually dry, especially at those places which escaped the thundery showers of the 7th and 8th, and one has to go back to 1901 for comparable figures from the Bedford area. At the other extreme, November was one of the wettest half-dozen of the present century.

SNOW occurred on eighteen days, but there was only one heavy fall, that accompanying the blizzard of 4th March; there were also appreciable falls on the 6th and 8th January, and, more particularly, on 12th February, but only in the first case did the snow lie unmelted for more than a few hours.

The longest continuous wet period extended over the seventeen days from 8th to 24th January inclusive; the driest was the period of thirteen days from 29th May to 10th June inclusive. There were no periods of absolute drought during the year. The wettest days of the year at Cardington were the 19th August, with 25.9 mm. and the 1st November with 19.9 mm. It is probable however, that some exceptional falls escaped record on the 27th June, when a line-squall produced 83 mm. of rain and hail in two hours at Cambridge and about one-half that amount at the Nature Conservancy at Monks' Wood; only 12.7 mm. was measured at Cardington. Another remarkably local and violent storm occurred on the afternoon of 8th June when there was very heavy rain and hail in north Bedford and the villages on its northern outskirts, whereas central and southern parts of the town remained completely dry, as did Cardington. Apart from these two dates, thunder was reported on only eight other days of the year.

There were only a few exceptional TEMPERATURES; 33° C. was reached on 7th July, a very oppressive day, and 30° C. occurred on three days, 8th and 11th June and 3rd August. The two coldest days were 5th January and 27th December, on neither of which was freezing-point exceeded. The coldest night was that of 8th/9th March with a minimum of -9° C., while -8° C. was recorded on the previous night and on that of 6th/7th January.

A. W. GUPPY.

## BIRDS

### Highlights and Migration Patterns

1970 was an eventful and rewarding year for bird-watchers in Bedfordshire in nearly all aspects. The continued increase in the quantity of records received for the bird report is very pleasing, as is the continued interest and activity in the British Trust for Ornithology's national Atlas of breeding birds. The progress of this project is discussed more fully under a separate paragraph.

In all 162 species were recorded in Bedfordshire during the year: this total includes a Honey Buzzard that was taken alive in a Jay-trap near Grafham, Huntingdonshire, in June, which was released after treatment at the Royal Society for the Protection of Birds' headquarters at Sandy Lodge, and which was seen in the area on several subsequent occasions. In addition, subspecies or races that were identified were Hooded Crow, White Wagtail and Blue-headed Wagtail, and several flocks of unidentified grey geese were seen.

RAINFALL FOR 1970

	Cardington (R.A.F.)	Dunstable (Periwinkle Lane)	Luton (Crescent Road)	Luton (Runley Wood)	Kempston (Stuart Road)	Silsoe (N.I.A.E. Wrest Park)	Sandy (R.S.P.B. Sandy Lodge)
January	52.9	67.0	70.7	64.0	58.9	45.7	56.4
February	59.6	61.0	62.3	56.5	64.0	48.6	68.6
March	45.5	45.0	43.0	47.3	48.3	40.1	29.5
April	61.5	69.6	75.5	73.0	64.8	68.1	62.7
May	9.0	23.1	23.5	23.3	6.6	9.4	11.4
June	39.1	40.0	39.9	37.2	26.2	30.7	29.5
July	46.9	53.4	56.0	60.9	59.5	44.5	55.6
August	61.0	49.7	55.8	53.7	75.2	72.1	32.8
September	34.3	45.5	50.9	48.3	41.4	43.4	44.4
October	15.3	23.7	26.2	25.7	17.3	14.2	14.2
November	110.1	150.2	139.7	145.3	119.2	113.3	111.5
December	36.3	41.2	43.9	43.3	34.6	36.6	45.4
TOTAL mm.	571.5	669.4	687.4	678.5	616.0	566.7	562.0
(1969 total)	556.4	570.7	567.7	535.1	545.5	463.4	—

Cardington Per L. A. Speed

Dunstable & Luton Per E. G. Meadows

Kempston C. S. Payne

Sandy Per J. Crudass

Month by month some of the more unusual records can be summarised. In January a huge flock of passerines was on a stubble field at Bidwell, with estimates of up to 900 Tree Sparrows, 200 Greenfinches, 250 Chaffinches, 200 Skylarks and 100 Yellowhammers; amongst these was found a fine male Snow Bunting, and another male of this species was found at Milton Ernest later in the same month. Also in January was a Bittern at Southill Lake, a Spotted Crake near Edlesborough and an exhausted Red-throated Diver at Kensworth, the last dying two days later. A Waxwing was seen in Luton in March. Another Bittern was seen at Langford in May and this individual stayed throughout the year. A Kite which flew over Whipsnade in May was one of the highlights of the spring migration, the other being an adult Night Heron which was found at Felmersham in June; the latter is a new County record.

The first "Quail-year" since 1965 resulted in at least eight separate reports of this secretive but vocal species during the breeding season. Two Wrynecks occurred during autumn migration, one at East Hyde in August and another in Luton in September. Also in September was a Black-necked Grebe at Stewartby Lake. A Leach's Petrel at Stewartby Lake on 4th October was the first of this pelagic species since the enormous wreck of 1952 when five were found in Bedfordshire. A Great Grey Shrike was seen at Sandy Lodge at the end of October and a Long-tailed Duck was seen at Stewartby Lake in early November. November also produced a few Waxwings in the Bedford area, a Water Pipit at Luton Sewage Farm which stayed until March 1971, and at least two Twite amongst a large flock of Greenfinches and Linnets at Stanford Gravel Pit. The year was brought to a close by two more Great Grey Shrikes in December, at Stewartby Lake and at Melchbourne Park.

Turning now to the common migrants, many wintering species were present in below-average numbers at both ends of the year. Peak duck counts were a little down on the preceding year, while Golden Plovers and Bramblings were exceptionally scarce, and Fieldfares and Redwings were by no means plentiful. Black Terns were numerous on spring passage, but "comic" terns were very few, and the normal wader passage in spring was rather uneventful although there was an unusual number of sightings of Green Sandpipers during January to March. Autumn movements of waders and terns followed the usual patterns and do not call for special comment.

The spring arrivals of both nocturnal and diurnal migrants were rather late, due largely to the inclement weather during much of April. It should be recorded that the breeding numbers of Whitethroats, so decimated in 1969, did show some recovery, but still fell well below pre-1969 populations.

### **B.T.O. Atlas Survey — Progress and Prospects**

1970 was the third year of this five-year project to map the distribution of the breeding birds of Britain and Ireland. Field-work continued in the Bedfordshire area and more invaluable data were obtained. 115 species have now been found in the area in possible breeding habitat, but of these nine only occur in parts of 10 km. squares that are not actually in Bedfordshire. Of the 115 species in the whole area six have only been recorded as first column entries, that is present in possible breeding habitat. A further five species have only been recorded to second column status, that is probably breeding, and for 104 species breeding has been proved.

To date 47 species have been found in all twenty-one 10 km. squares and the following nineteen species have been proved breeding in all the squares: Mallard, Moorhen, Woodpigeon, Swallow, House Martin, Rook, Blue Tit, Long-tailed Tit, Wren, Mistle Thrush, Song Thrush, Blackbird,

Whitethroat, Willow Warbler, Starling, Greenfinch, Goldfinch, Linnet and House Sparrow.

Square Area	Number of species		Information particularly required for
	Recorded	Proved breeding	
SP91	Tring	102	89 Grey Wagtail.
SP92	Leighton Buzzard	90	71 Lady Amherst's Pheasant, Nightingale, Grey Wagtail, Hawfinch, Siskin
SP93	Woburn	85	73 Little Grebe, Pochard, Sparrowhawk, Lady Amherst's Pheasant, Water Rail, Snipe, Black-headed Gull, Collared Dove, Barn Owl, Long-eared Owl, Kingfisher, Woodlark, Reed Warbler, Sedge Warbler, Grey Wagtail, Siskin
SP94	Astwood	64	47 Little Grebe, Quail, Barn Owl, Great Spotted Woodpecker, Lesser Spotted Woodpecker, Coal Tit, Nuthatch, Whinchat, Sedge Warbler, Goldcrest, Spotted Flycatcher, Pied Wagtail, Hawfinch, Redpoll
SP95	Harrold	79	72 Quail, Long-eared Owl, Great Spotted Woodpecker, Nuthatch, Whinchat, Meadow Pipit, Tree Pipit, Redpoll
SP96	Rushden	80	72 Quail, Willow Tit, Nuthatch, Reed Warbler, Meadow Pipit, Hawfinch, Redpoll
TL01	Markyate	81	50 Whinchat, Yellow Wagtail, Cirl Bunting
TL02	Dunstable	78	64 Woodcock, Long-eared Owl, Lesser Spotted Woodpecker, Nuthatch, Redstart, Nightingale
TL03	Ampthill	92	61 Wood Warbler, Siskin, Crossbill
TL04	Stewartby	80	58 Quail, Woodcock, Lesser Spotted Woodpecker, Jay, Nuthatch, Nightingale, Grey Wagtail, Hawfinch, Redpoll
TL05	Thurleigh	77	57 Little Grebe, Quail, Water Rail, Woodcock, Meadow Pipit, Grey Wagtail, Redpoll
TL06	Melchbourne	72	54 Quail, Collared Dove, Long-eared Owl, Whinchat, Redstart, Meadow Pipit, Tree Pipit, Hawfinch.
TL11	Harpenden	74	46 Sparrowhawk, Water Rail, Woodcock, Long-eared Owl, Nightjar, Lesser Spotted Woodpecker, Whinchat, Redstart, Nightingale, Wood Warbler, Meadow Pipit, Yellow Wagtail, Redpoll
TL12	Hitchin S.W.	76	41 Quail, Barn Owl, Whinchat, Redstart, Nightingale, Wood Warbler, Siskin, Crossbill

TL13	Shefford	76	61	Little Grebe, Water Rail, Snipe, Woodcock, Redshank, Long-eared Owl, Nuthatch, Whinchat, Redstart, Reed Warbler, Goldcrest, Grey Wagtail, Yellow Wagtail, Hawfinch, Redpoll
TL14	Sandy	91	79	Quail, Lady Amherst's Pheasant, Black-headed Gull, Common Tern, Woodlark, Wood Warbler, Grey Wagtail, Crossbill
TL15	Eaton Socon	83	54	Quail, Woodcock, Collared Dove, Barn Owl, Whinchat, Grey Wagtail, Hawfinch
TL16	Buckden	87	62	Water Rail, Lesser Spotted Woodpecker, Magpie, Hawfinch, Redpoll
TL23	Baldock	75	58	Water Rail, Snipe, Barn Owl, Green Woodpecker, Whinchat, Nightingale, Tree Pipit, Grey Wagtail, Yellow Wagtail, Hawfinch
TL24	Potton	67	54	Little Grebe, Quail, Lesser Spotted Woodpecker, Willow Tit, Nuthatch, Treecreeper, Whinchat, Meadow Pipit, Hawfinch
TL25	Gamlingay	66	47	Little Grebe, Quail, Barn Owl, Magpie, Nuthatch, Goldcrest, Hawfinch

In addition, Golden Pheasant, Reeve's Pheasant and Feral Pigeon will be mapped in the national Atlas, and all records of these species and of Lady Amherst's Pheasant are required.

#### Request for Information

In order that the annual fluctuation in the breeding numbers may be recorded, observers are requested to note and submit all records of breeding numbers, and where possible all records of breeding success, for the following species :

Great Crested Grebe	Common Tern
Heron	Barn Owl
Tufted Duck	Long-eared Owl
Pochard	Nightjar
Little Ringed Plover	Wood Warbler
Redshank	Red-backed Shrike
Black-headed Gull	Crossbill

In support of the national study of the continued spread and increase of the Collared Dove, all data including feeding flocks and roosting numbers would be invaluable.

#### Bird Records Committee

County Bird Reports are being used for national investigations with increasing frequency, and in the years to come the status of some bird species may change to such an extent that future observers may have cause to question the records made by our present-day observers. Thus it is most desirable that the records published in all bird reports should be authentic and as accurate as possible, and to this end a Bedfordshire Bird Records Committee was established early in 1971, consisting of : P. F. Bonham, J. N. Dymond (Recorder), A. J. Livett, R. F. Porter and Dr. J. T. R. Sharrock.

Species of sufficient rarity in Bedfordshire to merit supporting details including a written field description, are listed below. Records of species on this list should be submitted *as they occur through the year*. Full notes are also required, of course, for species rarer than those listed, for species new to Bedfordshire, and for all national rarities (details of the latter will be passed to the *British Birds Rarities Committee*). Other species not on the list that occur out of their normal seasons or in other exceptional circumstances should also be submitted with full details.

The Recorder will be pleased to assist with any queries that may arise, and also to send a supply of bird record cards on request.

All divers	All birds of prey	All auks
Red-necked Grebe	except Kestrel	Hoopoe
Slavonian Grebe	Quail	Wryneck
Black-necked Grebe	Spotted Crake	Woodlark
All petrels	Corncrake	Shore Lark
All shearwaters	Kentish Plover	Golden Oriole
Fulmar	Grey Plover	Bearded Tit
Gannet	Dotterel	Ring Ouzel
Cormorant	Bar-tailed Godwit	Black Redstart
Shag	Little Stint	Marsh Warbler
Bittern	Temminck's Stint	Firecrest
Red-crested Pochard	Pectoral Sandpiper	Pied Flycatcher
Scaup	Avocet	Rock and Water Pipits
Ferruginous Duck	All phalaropes	Yellow Wagtail races
Long-tailed Duck	Stone Curlew	<i>other than flavissima</i>
Velvet Scoter	All skuas	Waxwing
Common Scoter	Glaucous Gull	Great Grey Shrike
Red-breasted Merganser	Iceland Gull	Twite
All geese except Canada	Little Gull	Curlew
Whooper Swan	Kittiwake	Lapland Bunting
Bewick's Swan	All terns except	Snow Bunting
	Black and Common	

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B.T.O. Atlas data should be returned to the Bedfordshire Organiser by 31st August. All records for the 1971 Bird Report should be sent to the Bird Recorder by the end of January 1972, and data received after that date will be held over to the following year.

In the following section and in the systematic list the figures against the species' names indicate the number of 10 km. squares in the Bedfordshire area for which that species has been recorded in each of the three categories of breeding evidence during the three years 1968-1970. For example, the (1-2-12) against Little Grebe means that, respectively, in one square it has been recorded as present in breeding habitat, in another two squares it has been recorded as probably breeding, and in twelve of the remaining eighteen squares breeding has been proved. Where possible Atlas data that refers to parts of adjacent counties have been so designated.



Species recorded as present in normal numbers in Bedfordshire during 1970, and not included in the systematic list are: **Little Grebe** *Podiceps ruficollis* (1-2-12), **Mute Swan** *Cygnus olor* (0-0-16), **Red-legged Partridge** *Alectoris rufa* (0-1-20), **Partridge** *Perdix perdix* (0-4-17), **Pheasant** *Phasianus colchicus* (0-2-19), **Moorhen** *Gallinula chloropus* (0-0-21). **Woodcock** *Scolopax rusticola* (4-4-7), **Great Black-backed Gull** *Larus marinus*, **Herring Gull** *Larus argentatus*, **Common Gull** *Larus canus*, **Stock Dove** *Columba oenas* (2-5-14), **Woodpigeon** *Columba palumbus* (0-0-21), **Little Owl** *Athene noctua* (1-3-17), **Tawny Owl** *Strix aluco* (1-4-16), **Green Woodpecker** *Picus viridis* (3-9-8), **Great Spotted Woodpecker** *Dendrocopos major* (6-9-4), **Lesser Spotted Woodpecker** *Dendrocopos minor* (7-3-5), **Skylark** *Alauda arvensis* (0-1-20), **Carrion Crow** *Corvus corone corone* (3-1-17), **Rook** *Corvus frugilegus* (0-0-21), **Jackdaw** *Corvus monedula* (1-1-19), **Magpie** *Pica pica* (2-1-16), **Jay** *Garrulus glandarius* (3-3-14), **Great Tit** *Parus major* (0-1-20), **Blue Tit** *Parus caeruleus* (0-0-21), **Coal Tit** *Parus ater* (2-1-17), **Marsh Tit** *Parus palustris* (1-2-18), **Willow Tit** *Parus montanus* (0-6-13), **Long-tailed Tit** *Aegithalos caudatus* (0-0-21), **Treecreeper** *Certhia familiaris* (5-2-13), **Wren** *Troglodytes troglodytes* (0-0-21), **Mistle Thrush** *Turdus viscivorus* (0-0-21), **Song Thrush** *Turdus philomelos* (0-0-21), **Blackbird** *Turdus merula* (0-0-21), **Goldcrest** *Regulus regulus* (6-3-9), **Duncock** *Prunella modularis* (0-1-20), **Meadow Pipit** *Anthus pratensis* (4-2-8), **Starling** *Sturnus vulgaris* (0-0-21), **Greenfinch** *Carduelis chloris* (0-0-21), **Goldfinch** *Carduelis carduelis* (0-0-21), **Linnet** *Acanthis cannabina* (0-0-21), **Bullfinch** *Pyrrhula pyrrhula* (1-1-19), **Chaffinch** *Fringilla coelebs* (0-2-19), **Yellowhammer** *Emberiza citrinella* (0-2-19), **Corn Bunting** *Emberiza calandra* (1-11-9), **Reed Bunting** *Emberiza schoeniclus* (0-2-19), **House Sparrow** *Passer domesticus* (0-0-21).

The following abbreviations are used in the text: SF—Sewage Farm, ChP—Chalk Pit, CIP—Clay Pit, GP—Gravel Pit, SP—Sand Pit, L—Lake, NR—Nature Reserve.

#### **Red-throated Diver** *Gavia stellata*

One found in an exhausted condition at Kensworth on 30th January was taken to Whipnade Zoo where it died two days later (GJB).

#### **Great Crested Grebe** *Podiceps cristatus* 0-0-12

Breeding confirmed at Wyboston GP (4 pairs), Felmersham NR (4 pairs), Elstow CIP (1 pair + 4 young), Southill L and Luton Hoo L (1 pair + 2 young). Also present during the breeding season at Vicarage Farm CIP, Chimney Corner CIP, Stewartby L and Cityfields GP (Henlow). No data are available for at least six other suitable waters. The annual post-breeding build-up at Stewartby L peaked at c60 on 18th October but decreased thereafter to c25.

#### **Black-necked Grebe** *Podiceps nigricollis*

One observed at close range at Stewartby L, on 13th September was in winter plumage (AJL, BJJ, BS).

#### **Leach's Petrel** *Oceanodroma leucorhoa*

One seen at Stewartby L, on 4th October was fully described (MRS).

#### **Cormorant** *Phalacrocorax carbo*

One flew north over Colworth on 16th March (MR) and one with an injured wing was seen at Castle Mill, near Bedford on 22nd November (BRS).

**Heron** *Ardea cinerea*

8-0-3

Unfortunately neither the Bromham heronry nor the one at Southill L was counted during the breeding season.

**Night Heron** *Nycticorax nycticorax*

One adult seen at Felmersham NR on 16th June (KH, MR). This record has been accepted by the *British Birds* Rarities Committee, and is the first occurrence of the species in Bedfordshire.

**Bittern** *Botaurus stellaris*

One observed at Southill L on 18th January (MRS). One reported at Langford GP in March 1971 had been seen regularly since May 1970 (E. J. Whiteman, per JND).

**Mallard** *Anas platyrhynchos*

0-0-21

The maximum monthly counts recorded at selected localities from January to March and from September to December are tabulated. In this table and in the subsequent ones '—' indicates that no count was recorded.

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Wyboston GP	500	300	55	—	—	25	15
Felmersham NR	—	38	25	—	—	—	50
Bedford SF	43	84	102	11	—	30	166
Chimney Corner CIP	100	165	—	—	—	—	30
Vicarage Farm CIP	—	—	—	700	700	—	660
Stewartby L	400	200	—	1000	1000	300	800
Southill L	300	375	25	225	180	500	250

The only other water to support a sizeable flock was Luton Hoo L, where the only count was c280 on 4th January.

**Teal** *Anas crecca*

5-0-1

The maximum monthly counts recorded at selected localities from January to March and from September to December are tabulated.

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Wyboston GP	200	100	10	15	—	10	2
Bedford SF	15	2	20	—	—	10	33
Stewartby L	100	—	2	5	10	—	40
Southill L	40	35	25	50	36	70	32

Small parties were recorded at many other localities during the autumn and winter months. The locality of the one breeding record in the Atlas area is not in the County.

**Garganey** *Anas querquedula*

One drake at Felmersham NR on 18th June, one at Stewartby L on 2nd August, two at Blunham GP on 9th August and two there again on 27th August were the only records during the year.

**Gadwall** *Anas strepera*

1-0-0

A drake at Wyboston GP on 15th February, one at Chimney Corner CIP on the same day, a pair at Felmersham NR on 1st March, four at Dunstable SF on 15th August, a drake at Apsley End on 6th December and a drake at Wyboston GP on 12th December were the only records during the year.

**Wigeon** *Anas penelope*

Up to ten at Stewartby L, in January increased to 59 on 22nd February, but had all gone on 1st March. Also in February were 13 at Bedford SF on 14th and 19 at Chimney Corner CIP on 15th, with five at Wyboston GP on 15th March. Otherwise no records until 23 at Stewartby L, on 28th December.

**Pintail** *Anas acuta*

Two drakes at Stewartby L, on 4th January constitute the only report during the year (R. F. Lyle, per BS).

**Shoveler** *Anas clypeata*

1-0-2

Three drakes at Wyboston GP on 4th January when two ducks at Luton Hoo L, at least three near Felmersham on 24th March and a drake at Stewartby L, on 9th April. None recorded during the breeding season, and the localities of both records of proven breeding in the Atlas area are outside the County.

Odd ones and twos on sporadic dates from 31st July until the end of August at Girtford GP, Blunham GP, Stewartby L, and Dunstable SF, with further single birds at Dunstable SF on 4th October, at Heath and Reach SP on 25th October, at Dunstable SF on 1st November and at Stewartby L, on 28th December.

**Tufted Duck** *Aythya fuligula*

1-3-12

Present during the breeding season at the following localities and young seen at most: Wyboston GP, Chawston GP, Blunham GP, Girtford GP, Harrold GP, Colworth L, Felmersham NR, Southill L, Cityfields GP, Elstow CIP, Chimney Corner CIP, Coronation CIP, Vicarage Farm CIP, Stewartby L, Brogborough CIP, Rushmere Pool, Heath and Reach SP, Battlesden L, Dunstable SF and Luton Hoo L.

The maximum monthly counts recorded at selected localities from January to March and from September to December are tabulated.

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Wyboston GP	318	265	76	—	—	127	150
Felmersham NR	—	55	60	—	—	—	30
Southill L	20	33	22	—	—	—	—
Chimney Corner CIP	12	26	—	—	—	8	30
Stewartby L	70	100	—	35	68	60	30

Also frequently recorded in small numbers at most other suitable waters.

**Pochard** *Aythya ferina*

3-1-5

Recorded during the breeding season at Wyboston GP, Girtford GP (one young), Southill L, Vicarage Farm CIP, Battlesden L and Rushmere Pool. No records received for the sand pits near Leighton Buzzard where breeding occurred in 1969.

The maximum monthly counts recorded at selected localities from January to March and from September to December are tabulated.

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Wyboston GP	105	39	11	—	—	44	49
Southill L	45	41	—	35	—	—	45
Chimney Corner CIP	21	20	—	—	—	4	20
Stewartby L	50	130	—	45	46	50	70

Smaller numbers frequently recorded on most other suitable waters.

**Goldeneye** *Bucephala clangula*

Only recorded at Wyboston GP, Stewartby L and Vicarage Farm CIP, and the monthly maxima are tabulated. The last spring birds were a pair at Stewartby L on 26th April and the first autumn birds were four there on 8th November.

	Jan.	Feb.	Mar.	Apr.	Nov.	Dec.
Wyboston GP	3	2	2	0	0	0
Stewartby L	10	10	8	4	5	10
Vicarage Farm CIP	0	0	1	0	0	0

**Long-tailed Duck** *Clangula hyemalis*

One immature at Stewartby L on 8th November (JND).

**Red-breasted Merganser** *Mergus serrator*

One "red-head" at Stewartby L on 1st March (PFB, JND).

**Goosander** *Mergus merganser*

Recorded at Stewartby L, as follows : one drake and three "red-heads" on 7th January, one "red-head" on 18th January, one drake and eight "red-heads" on 15th February, and three drakes and two "red-heads" on 28th December. Elsewhere, eight at Sandy Lodge on 6th January, one drake and five "red-heads" at Garsides SP (Leighton Buzzard) on 29th March, with four "red-heads" there on 2nd April and one on 5th, and two at Southill L on 11th Decmeber.

**Smew** *Mergus albellus*

One "red-head" at Stewartby L on 18th January and another at Wyboston GP from 18th January until 15th March (PFB, JND, PT).

**Shelduck** *Tadorna tadorna*

0-1-0

Three at Dunstable SF on 4th January, two there on 18th and 25th, one there on 12th April, and two there on 26th-27th August. Also two at Southill L on 18th January and one at Stewartby L on 7th and 13th September.

**Grey Geese** *Anser* sp.

c14 flying north-west over Luton on 5th February (MRS), three over Sandy Lodge on 23rd February (DE) and c15 flying north-east over Luton Hoo on 24th December (MRS).

**Canada Goose** *Branta canadensis*

2-0-1

Three recorded at Southill L from 18th January to 26th April and from 9th August to 13th December were probably there all the year and are almost certainly newly introduced stock. The one record of proven breeding in the Atlas area refers to a locality outside the County.

**Whooper Swan** *Cygnus cygnus*

Four at Dunstable SF on 1st-2nd January (JPL).

**Bewick's Swan** *Cygnus bewickii*

Two adults and three immatures flying north at Wyboston GP on 20th December (BS, MRS), 28 west over River Ouse, Bedford on 22nd December (MR) and two near Langford on the same day (AJL).

**Whooper/Bewick's Swan** *Cygnus cygnus/bewickii*

A herd of 28 flying west-north-west over Brickhill, Bedford on 28th October were too high for specific identification (EMS, JTRS).

**Buzzard** *Buteo buteo*

One at Luton Hoo Park on 4th January (AJL) and again on several occasions during October to December (per AJL).

**Sparrowhawk** *Accipiter nisus* 7-1-1

A male at Pegsdon Hills on 24th March (CWB), one at Barton Cutting on 15th August (KRW) and one at Dunstable SF on both 1st and 26th December (JPL) were the only reported sightings during the year.

**Kite** *Milvus milvus*

One was watched for about ten minutes over Whipsnade Zoo on 17th May before it drifted away to the south-west (RNBP).

**Honey Buzzard** *Pernis apivorus*

One which was caught in a Jay-trap near Grafham (Huntingdonshire) was released at Sandy Lodge on 10th June and was last seen in the area on 23rd June.

**Hobby** *Falco subbuteo* 3-1-1

Six sightings were reported during the year: at Felmersham NR on 18th June (BDH), at Brogborough on 28th July (JND), at Dunstable SF on 26th August (MRS), at Sandy Lodge on 25th September (DE), at Dunstable SF on 26th September (JPL) and again there on 4th October (JPL).

**Kestrel** *Falco tinnunculus* 4-2-15

Present during the breeding season in every square in the Atlas area. 6-7 pairs in TL02 (MRS).

**Quail** *Coturnix coturnix* 3-6-1

One seen near Woburn on 22nd May, two heard near Shillington on 9th June, one heard at Houghton Regis on 13th June and another there on 17th June, one heard at Totternhoe on 25th June, one heard at New Farm, near Galley Hill on 29th June, and two seen near Warden Hills on 11th August. Several of the Atlas records, including the one of proved breeding, refer to Hertfordshire, and one of the probable breeding records was in Huntingdonshire.

**Water Rail** *Rallus aquaticus* 3-3-2

Apart from two at Dunstable SF on 11th May, no other breeding season records were received: clearly many likely breeding haunts were not visited. Winter records refer to Wyboston GP, Barkers Lane GP, Castle Mill (Bedford), Girtford GP, Southill L, Dunstable SF and Fair View Farm, near Edlesborough.

**Spotted Crake** *Porzana porzana*

One seen at Fair View Farm, near Edlesborough on 26th January was fully described (AJL).

**Coot** *Fulica atra* 1-1-17

Peak counts early in the year were 340 at Wyboston GP, 320 at Chimney Corner CIP, 250 at Luton Hoo L and 220 at Stewartby L, and towards the end of the year there were 145 at Wyboston GP, 175 at Chimney Corner CIP, 200 at Stewartby L and 230 at Southill L.

**Lapwing** *Vanellus vanellus*

0-1-20

The largest winter flock was c500 at Luton Hoo on 4th January. Cold weather movement to the west was noted over Bedford on 6th January, over Luton on 4th and 6th March, and again over Luton on 26th December. Post-breeding parties were first observed flying over Sandy Lodge as early as 5th June and a regular movement continued throughout June and July.

**Ringed Plover** *Charadrius hiaticula*

0-0-1

Spring passage: Three at Wyboston GP on 18th April, two at Bedford SF on 19th April and one at Dunstable SF on 10th May.

Autumn passage: At Dunstable SF from 15th July to 20th August, maximum four on 19th August; also one at Stewartby L on 16th August and two at Bedford SF on 26th August, one remaining until 28th.

The locality of the one breeding record is outside the County.

**Little Ringed Plover** *Charadrius dubius*

1-2-7

The first spring bird was one at Garsides SP (Leighton Buzzard) on 22nd March, with two there from 7th April until 18th. At Dunstable SF there were two on 12th April, increasing to four on 19th, thereafter one or two until 25th May. One was at Bromham GP on 1st and 9th May and one was at Southill L on 10th May.

Breeding: Three pairs present at Wyboston GP but no details of success are known; five pairs attempted to breed at Blunham GP, at least two pairs successfully rearing young; one pair at Girtford GP was unsuccessful; one pair at Houghton Regis ChP probably reared one young. No reports received for Harrold GP or Jones SP (Heath and Reach). An adult and a juvenile were seen at Vicarage Farm CIP on 28th June, and thus it seems possible that breeding may have occurred at either this pit or at Stewartby L.

Autumn passage: At Dunstable SF from 8th July to 13th September, maximum eight on 31st July and on 23rd August; at Bedford SF one or two from 26th August to 21st September; at Stewartby L one or two from 2nd to 16th August; last seen at Blunham GP on 25th August.

**Golden Plover** *Pluvialis apricaria*

Few reports during the early part of the year and then only between 13th March and 12th April from four localities, the largest flock being 95 at Barton Hills on 12th April.

Only one record late in the year, of 32 at Flitwick Moor on 13th December.

**Snipe** *Gallinago gallinago*

8-4-4

Although widespread during the winter months as usual no large concentrations occurred on river meadows as at Felmerhsam and Wyboston in 1969; the highest count was c60 at Bedford SF on 8th November.

**Jack Snipe** *Lymnocyptes minimus*

Odd ones and twos recorded during the winter months at Wyboston GP, Bedford SF, Girtford GP, Stanford GP and Dunstable SF.

**Curlew** *Numenius arquata*

Recorded only during the autumn, as follows: one found dead near Dunstable SF on 6th July, one over Houghton Regis on 26th August, one at Dunstable SF on 27th August and two over Dunstable SF on 28th September.

**Whimbrel** *Numenius phaeopus*

One at Dunstable SF on 3rd-4th May (AJL, BS, MRS).

**Green Sandpiper** *Tringa ochropus*

An unusual number of records during January to March as follows : at Bedford SF, one on 3rd-4th January, 2-3 on 17th, one again on 31st, one on 7th February, one on 1st March, two on 27th and one on 30th; also one at Bidwell on 17th January and one at Edlesborough on 15th February.

April sightings, all of single birds, on 5th at Dunstable SF, on 11th at Bedford SF and on 26th at Southill L.

Autumn passage : At Bedford SF from 28th July to 17th September, maximum ten on 26th August, with a further 1-3 from 1st to 14th November, and one on 12th December; at Blunham GP from 9th to 27th August, maximum three on 9th; at Girtford GP one from 7th-15th July, one on 28th November and one on 21st December; at Sandy Lodge one on 22nd June, then ten sightings during August, two birds on 21st September, one from 4th-6th October and one on 27th November; at Felmersham NR two in early August; at Dunstable SF from 15th July to 22nd September, maximum six on 10th August, with three on 20th October and one on 1st December.

**Wood Sandpiper** *Tringa glareola*

No spring records. All autumn records were during August, as follows : one at Blunham GP on 2nd, one there on 9th and two on 27th (RFP), one at Bedford SF on 26th (PT) and one at Dunstable SF on 30th (KRW).

**Common Sandpiper** *Tringa hypoleucos*

2-1-0

Spring passage : First record was one on the canal at Leighton Buzzard on 15th April, with further singles at Girtford GP on 16th, Garsides SP on 18th and Heath and Reach SP on 19th, and two at Bedford SF on 18th; at Dunstable SF from 26th April to 18th May, maximum three on 3rd and 18th May. Also one at Wyboston GP on 24th May.

At Girtford GP up to three were present during May and two birds appeared to be "paired up". Song was heard on several occasions and although observations were not made between 19th May and 1st June, nor after 2nd June (until July), it does seem that nesting may have been attempted (PNH). One or more birds were also present throughout the breeding season at Garsides SP (KRSS) and at another locality that is outside the County.

Autumn passage : At Wyboston GP one on 30th July and up to four during September; at Blunham GP from 4th July to 3rd September, maximum nine on 23rd August; at Girtford GP from 7th July to 6th September, maximum 11 on 28th August; at Dunstable SF from 15th July to 10th September, maximum nine on 12th August. Also odd birds at Elstow CIP, Stewartby L, Vicarage Farm CIP, Bromham GP and Southill L.

One seen at Wyboston GP on 5th December (PNH).

**Redshank** *Tringa totanus*

2-0-9

One at Wyboston GP on 4th January, one at Bedford SF on the same day and another there on 31st January. The first pair returned to Bedford SF on 7th March and 3-4 pairs bred there. Also observed breeding or probably breeding at Wyboston GP (one pair), Vicarage Farm CIP (one pair) and Stewartby L (one pair). No breeding this year at Stanford GP or Girtford GP, but several other sites were not visited.

Passage migrants during spring included three at Garsides SP on 22nd March, four at Stanford GP on 25th March, one at Dunstable SF on 5th April and one there on 10th May.

Autumn passage: At Dunstable SF from 15th to 25th July, maximum five on 22nd; also one at Girtford GP on 25th July, one at Bedford SF on 2nd August and one at Stewartby L on 13th September.

**Spotted Redshank** *Tringa erythropus*

One at Dunstable SF on 19th August (MRS), two at Blunham GP on 27th August and one there on 3rd September (RFP) and one at Dunstable SF on 27th September (BS).

**Greenshank** *Tringa nebularia*

No spring records.

Autumn passage: At Bedford SF two on 26th August; at Blunham GP one on 25th-27th August and two on 3rd September; at Girtford GP one on 14th July, one on 9th August, two on 5th September, one on 6th and three on 17th; at Dunstable SF one on 16th August, one on 18th and two on 19th-20th.

**Little Stint** *Calidris minuta*

One at Dunstable SF on 27th August (AJL, BS) and five at Dunstable SF on 26th-27th September (BDH, AJL, BS, MRS).

**Dunlin** *Calidris alpina*

Spring passage: At Bedford SF one on 11th April and one on 19th, one at Garsides SP on 13th-15th April, two near Dunstable SF on 26th April, and one at Girtford GP on 16th May.

Autumn passage: At Dunstable SF from 15th July to 12th August, maximum six on 22nd July, then one on 12th September, one on 18th October, three on 15th November and one on 22nd December; singles at Bedford SF on 26th August, at Blunham GP on 29th July and 13th August, at Stewartby L on 4th October, at Luton SF on 11th-12th November and at Southill L on 15th November.

**Curlew Sandpiper** *Calidris ferruginea*

At Bedford SF two on 26th August, one remaining until 28th, and one on 12th-17th September (JTRS, PT).

**Ruff** *Philomachus pugnax*

Spring passage: Two at Chimney Corner CIP on the very early date of 15th February (BS); one at Dunstable SF on 22nd March; at Bedford SF one on 11th April, two on 19th and two on 2nd May. One male in full breeding plumage at Dunstable SF on 18th June (DG).

Autumn passage: At Bedford SF from 16th to 28th August, maximum seven on 28th; at Blunham GP one on 25th August; at Dunstable SF from 25th July to 4th October, maximum 11 on 26th-27th August, with another peak of 10 on 12th September.

**Lesser Black-backed Gull** *Larus fuscus*

0-0-1

Four adults and several immatures remained at Chimney Corner CIP throughout May, but no evidence of breeding was obtained.

**Little Gull** *Larus minutus*

One seen at Stewartby L, on 26th April (AJL), a juvenile there on 9th (MRS), and a further juvenile there on 16th August (JND).



**Black-headed Gull** *Larus ridibundus*

0-0-5

c10000 on 9th April was the only recorded estimate for the roost at Stewartby L (AJL). Although no count of breeding pairs was made at Vicarage Farm CIP there were some 200 juveniles there on 28th June (MRS). Four pairs bred successfully at Wyboston GP (JND).

**Kittiwake** *Rissa tridactyla*

One immature at Stewartby L on 9th August (MRS) and another immature there on 13th September (ATL, BS, MRS).

**Black Tern** *Chlidonias niger*

Spring passage: At Stewartby L, eight on 3rd May, when also four at Vicarage Farm CIP, 24 on 4th, 10 on 8th, and five on 7th June; at Longholme L, Bedford, two on 10th May; at Dunstable SF three on 11th May; and at Girtford GP one on 12th May.

Autumn passage: At Stewartby L, 11 on 16th August, five on 13th September and two on 20th; at Dunstable SF three on 20th September and one on 10th October.

**Common/Arctic Tern** *Sterna hirundo/paradisaea*

None seen during spring other than the breeding Common Terns.

Autumn passage: At Wyboston GP five on 6th September; at Stewartby L, one on 14th August, three on 6th September, one on 7th and two on 13th; at Dunstable SF two on 19th August.

**Common Tern** *Sterna hirundo*

0-0-2

Spring passage: One at Stewartby L on 22nd May.

Autumn passage: One at Girtford GP on 9th August and one at Wyboston GP on 5th September.

Breeding: At Wyboston GP two birds had returned on 26th April, by 6th June there were three pairs and one spare adult, and by 5th July there were at least five pairs with nests (JND). Unfortunately no further visits were made here during the breeding season, and thus the outcome must remain unknown. On 11th June a pair was displaying at Girtford GP and on 12th a nest was clearly occupied. Possibly due to human disturbance the pair were unsuccessful, broken egg-shells being reported by a boy-swimmer (PNH). Both Wyboston GP and the relevant pit at Girtford are in TL15, and the locality of the second breeding record in the Atlas area is outside the County.

**Arctic Tern** *Sterna paradisaea*

One identified at Bedford SF on 16th May (MR).

**Little Tern** *Sterna albifrons*

One seen at Stewartby L on 8th May (BSN) and one at Wyboston GP on 23rd May (PT).

**Sandwich Tern** *Sterna sandvicensis*

One seen at Stewartby L on 13th September (AJL, BS, MRS).

**Turtle Dove** *Streptopelia turtur*

0-5-16

First spring arrival noted on 2nd May at Ravensden Wood (PT) with several further reports in the next week. The last autumn bird was one at Dunstable SF on 27th September (JPL).

**Collared Dove** *Streptopelia decaocto* 1-8-9

In the Atlas area now only absent from SP93, TL06 and TL15. As this species is still expanding its range and is becoming more common, all records of both breeding birds and of flocks and roosts would be most welcome.

**Cuckoo** *Cuculus canorus* 0-10-11

First noted on 18th April at Sandy Lodge (DE) with others at Eaton Bray and Rushmere on 19th (PJB, KRSS). The last adult was seen on 16th August at Bedford SF and single juveniles were seen there on 26th August and finally on 20th September.

**Barn Owl** *Tyto alba* 7-2-6

This species was again found to be very difficult to locate with only one new Atlas record in the area.

**Long-eared Owl** *Asio otus* 5-2-1

One seen in SP93 was the only additional record in the Atlas area.

**Short-eared Owl** *Asio flammeus*

One over Luton on 28th November was being mobbed by three Carrion Crows (BS).

**Nightjar** *Caprimulgus europaeus* 3-4-1

One seen in SP93 was the only addition to the Atlas data. There were four singing males at Sandy Lodge during June (DE), but no specific details were received from any other regular haunts.

**Swift** *Apus apus* 3-1-17

First spring arrivals were noted on 4th May over Luton and Sandy Lodge, with several further reports in the next few days. Numerous autumn sightings up to mid-September but none seen after 17th.

**Kingfisher** *Alcedo atthis* 1-5-7

Atlas work produced records in two new squares in the area, and the number of sightings and the range of localities would suggest that this species is continuing to increase.

**Wryneck** *Jynx torquilla*

One found dead at East Hyde on 23rd August (R. Andrews, per MFMM) and one seen in Luton on 12th September (BJN).

**Woodlark** *Lullula arborea* 2-0-0

None recorded during the breeding season. One found at Sandy Lodge on 1st December was seen again on 13th, with three there together on 15th (DE).

**Swallow** *Hirundo rustica* 0-0-21

First spring record was one near Leighton Buzzard on 12th April (KRSS), followed by one at Sandy Lodge on 15th and several reports on 16th. The last at Sandy Lodge were four on 28th October, with one at Luton Hoo on 29th (MRS) and one at Colworth on 2nd November (MR).

**House Martin** *Delichon urbica*

0-0-21

First recorded on 18th April when three were seen at Houghton Regis (BDH), with c25 at Dunstable SF on 19th (KRW). Numerous until late October and singles in November at Sandy Lodge on 6th (DE), at Wrest Park on 12th (JMG) and at Luton Hoo on 12th (MRS).

**Sand Martin** *Riparia riparia*

3-1-13

First noted at Felmersham NR on 24th March (PT), but very few others until mid-April. Few autumn records received, but last seen on 20th September (MRS).

**Hooded Crow** *Corvus corone cornix*

Reports of one at Dunstable SF on 2nd January, 18th January and 14th February and at Houghton Regis ChP on 8th March probably refer to the same individual (JPL, BS).

**Nuthatch** *Sitta europaea*

5-2-6

Atlas study has yet to reveal this species in eight of the twenty-one squares in the Bedfordshire area.

**Fieldfare** *Turdus pilaris*

Rather scarce in the early months of the year, but more reports early in April including a flock of c200 at Bartonhill Farm on 10th (MRS), and the last spring record was 20 at Battlesden Park on 19th April (MRS).

Several reports of largish flocks on 21st October with more during the following week and generally widespread until the end of the year.

**Redwing** *Turdus musicus*

As with Fieldfare, rather scarce early in the year, c100 at Houghton Regis on 2nd March (BDH) being the largest reported flock. The last spring emigrant was one at Stotfold on 12th April (DJA).

In autumn the first was heard over Luton on 22nd September (MRS), but although large numbers were reported from Harlington on 25th October (KRSS) this species was not so numerous as Fieldfare during the last two months of the year.

**Ring Ouzel** *Turdus torquatus*

A male was seen at Galley Hill on 25th April (MRS).

**Wheatear** *Oenanthe oenanthe*

3-0-1

First recorded on 2nd April at Leighton Buzzard (KRSS) with many others in the next ten days. The highest numbers were seen during the last few days of April and the first few of May, with as many as 18 on 2nd May at New Farm, Streatley, where the last two spring migrants were seen on 23rd (MRS).

Many fewer recorded on autumn passage, most in August, a few in September, and the last on 21st October at Dunstable SF.

**Stonechat** *Saxicola torquata*

During the early part of the year just two were reported, on Dunstable Downs on 6th February (RF) and on Pegsdon Hills on 17th March (CWB).

The first autumn bird was a female at Dunstable SF on 20th September (MRS) and a pair was seen there from 4th October until the year end (JPL, BS, MRS). Also one at Garsides SP (Leighton Buzzard) on 1st November and 6th December (KRSS), one at Bedford SF on 1st November (PT) and one at Girtford GP on 28th November (PNH).

**Whinchat** *Saxicola rubetra*

2-2-4

First spring record was one at Girtford on 11th May (PNH). A pair were carrying food for young on 16th June on Dunstable Downs (MRS), but no details of other breeding records were submitted. Ones and twos widely reported on autumn passage from 26th August to 8th October.

**Redstart** *Phoenicurus phoenicurus*

1-1-4

First observed on 26th April at Shire Oak (PFB), a breeding locality, and a migrant female seen at Sandy Lodge on 29th. Breeding records only received for Heath and Reach. Single autumn migrants recorded at Sandy Lodge on 22nd August, in Luton on 15th September, and again at Sandy Lodge on 26th September.

**Black Redstart** *Phoenicurus ochruros*

Sightings of a single female at Sandy Lodge on 7th May, 29th June and 30th August probably refer to different individuals (DE).

**Nightingale** *Luscinia megarhynchos*

2-12-1

Few records and no significant arrival and departure dates were received other than through the Atlas project. This continues to reveal how difficult it is to prove breeding for this species.

**Grasshopper Warbler** *Locustella naevia*

3-13-5

First heard on 28th April in north Bedford (JTRS). The breeding data do not call for comment and no autumn dates were reported.

**Reed Warbler** *Acrocephalus scirpaceus*

1-1-10

First recorded on 10th May at the Southill L breeding colony, but the earliest spring arrivals were almost certainly overlooked. A small reed-bed at Girtford GP held 3-4 breeding pairs (PNH): data of other breeding colonies were not reported. Last migrant was seen at Bedford SF on 21st September (JTRS).

**Sedge Warbler** *Acrocephalus schoenobaenus*

1-0-18

The earliest arrival was at Sandy on 17th April (PNH) and the last autumn migrant was at Dunstable SF on 27th September (BDH, AJL).

**Blackcap** *Sylvia atricapilla*

0-3-18

Not recorded in spring until 19th April, at Houghton Regis and at Dunstable SF. No significant autumn departure dates were reported.

**Garden Warbler** *Sylvia borin*

2-7-12

In comparison with the arrival dates of many other summer migrants, the first of this species at Southill Park on 26th April was not late (MRS). Last autumn record was one at Houghton Regis on 26th September (JPL).

**Whitethroat** *Sylvia communis*

0-0-21

The first spring arrival was one at Sandy Lodge on 23rd April (DE), but no others were reported until May. After the population slump in 1969 this species was more numerous in 1970, but still a long way short of its earlier numbers. The last autumn sightings were on 20th September at Bedford SF and Dunstable SF.

**Lesser Whitethroat** *Sylvia curruca*

2-9-10

First and last dates both recorded at Sandy Lodge, on 4th May and 26th September (DE).

**Willow Warbler** *Phylloscopus trochilus* 0-0-21

First heard at Sandy Lodge on 16th April (DE) with widespread reports in the next two days. A late autumn migrant was identified at Sandy Lodge on 11th October (DE).

**Chiffchaff** *Phylloscopus collybita* 0-3-18

One wintering individual seen in north Bedford on 10th February (BRS). The first spring arrival was singing in Charle Wood on 15th March (KRW) and one was heard at Sandy Lodge on 24th (DE), but no others were recorded until 5th April. Last autumn migrant was at Sandy Lodge on 12th October (DE).

**Wood Warbler** *Phylloscopus sibilatrix* 1-3-1

Apart from a migrant on Dunstable Downs on 4th May (RF) no records were received of this species.

**Spotted Flycatcher** *Muscicapa striata* 1-0-19

First spring arrival noted on 7th May at Sandy Lodge and last autumn bird also at Sandy, on 19th September (DE). Atlas work has yet to reveal this species in SP94.

**Pied Flycatcher** *Ficedula hypoleuca*

At Sandy Lodge a male was seen on 28th April, a first-year bird on 26th-27th August, and another on 14th September (DE). A male was also seen at Sutton Fen on 30th April (DE).

**Tree Pipit** *Anthus trivialis* 2-7-6

One at Sandy Lodge on 15th April (DE) was the first arrival noted, followed by one at Houghton Regis on 16th (BDH).

**Water Pipit** *Anthus spinoletta spinoletta*

One was found at Luton SF on 24th November (MRS) and, although not seen again until 16th December, it was then seen regularly until the end of the year (AJL, BS, MRS).

**Pied Wagtail** *Motacilla alba yarrellii* 0-3-17

This species has yet to be located breeding in SP94.

**White Wagtail** *Motacilla alba alba*

Spring passage : At Dunstable SF two from 17th April to 3rd May, one on 9th and one on 25th (BS, MRS); at Bedford SF one on 2nd May (PT).

One at Bedford SF on 20th September was the only positive autumn record (MRS).

**Grey Wagtail** *Motacilla cinerea* 0-1-0

In the early part of the year singles were seen at Barkers Lane GP, Colworth, Bidwell, Barton Springs, Luton SF, Clophill SF, Astwick SF, Arlesey SF, Chalton SF, Wardown Park (Luton), Dunstable SF, on the River Ivel near Biggleswade and at Sandy Lodge.

Late in the year singles were seen at Dunstable SF, Sandy Lodge, Kempston Manor, Honeyhill (Bedford), Chalton SF, Luton SF, East Hyde, Colworth, Girtford GP and in the centre of Luton.

The single breeding season record refers to a locality outside the County.

**Yellow Wagtail** *Motacilla flava*

2-1-13

First spring arrivals were two at Bedford SF on 11th April (PT) with others at Dunstable SF on 12th (MRS) and at Girtford GP on 17th (PNH), becoming widespread from 18th. One Blue-headed Wagtail, *M. f. flava*, was noted at Dunstable SF on 3rd May (AJL). The last emigrant was at Luton SF on 8th October.

**Waxwing** *Bombycilla garrulus*

One seen in Luton on 4th March (H. Isherwood, per BS), one in Kempston from late November to early December (Mrs. E. Parrott, per *Bedfordshire Times*) and 2-3 in Putnoe (Bedford) during the same period (Miss R. Brown, *Bedfordshire Times*).

**Great Grey Shrike** *Lanius excubitor*

One at Sandy Lodge on 29th-30th October (DE), one near Stewartby L on 6th December (R. F. Lyle, per BS), and one at Worley's Wood, Melchbourne on 13th December (JND, KP, JTRS).

**Red-backed Shrike** *Lanius collurio*

1-1-2

A male was seen and heard at one site on the chalk downs from 21st-31st May, but not subsequently. No other records were received during the year.

In the past a few pairs of this species have bred annually in Bedfordshire, and it must be hoped that the paucity of reports in 1970 is not a true indication of its present status as a breeding species in the County (right on the fringe of its already-diminishing range).

Observers are urged to send in all negative records for this species from past or possible breeding areas.

**Hawfinch** *Coccothraustes coccothraustes*

4-1-5

Singles observed at Sandy Lodge on 15th January and 6th May (DE) and at Whipsnade on 4th May (GJB), and two seen at Dray's Ditches, Galley Hill on 8th April (MRS) : no other localised reports were received.

**Siskin** *Carduelis spinus*

0-2-0

Recorded during the breeding season at Sandy Lodge, a male regularly from 20th May (DE), and at a locality in SP91 that is outside the County. During the early months of the year up to 50 seen at Flitwick Moor, with small numbers at several other localities, and a few visited a garden in Luton during cold weather in April (AGF). There were 12 at Sandy Lodge in October, a few here and elsewhere during November, and rather more during December, with separate flocks of c20 and c40 at Heath and Reach and c20 at Sandy Lodge.

**Twite** *Acanthis flavirostris*

At least two with a mixed flock of c300 Linnets and c400 Greenfinches at Stanford GP on 27th November (JND).

**Redpoll** *Acanthis flammea*

1-1-11

Still apparently increasing as a breeding species and it can be anticipated that it will be discovered in some or all of the squares where it is unrecorded at present. Similarly widespread during the winter months, the largest flock reported being 80 at Sandy Lodge on 22nd December.

**Crossbill** *Loxia curvirostra*

0-0-2

One at Shire Oak, Heath and Reach on 26th April was the only record during the year (PFB).

**Brambling** *Fringilla montifringilla*

Widely reported in very small numbers (mostly twos and threes, maximum ten) during January to March, with the last spring bird being seen in Luton on 5th April (BS). None at all recorded during the latter months of the year.

**Snow Bunting** *Plectrophenax nivalis*

One male seen at Bidwell on 4th January (DG, BJB, BS) and another male seen at Milton Ernest on 22nd-23rd January (MR).

**Tree Sparrow** *Passer montanus*

1-1-19

An estimated 750 on stubble at Bidwell on 4th January had increased to about 900 by 17th January (DG, BS). A flock of c400 was at Bedford SF from 8th November until the end of the year (JND).

J. N. DYMOND.

### MOLLUSCA

Comparing last year's map with the one below it can be seen that during 1970 great strides were made in the recording of Mollusca in Bedfordshire and the County now stands as one of the best recorded counties in the British Isles. The most obvious gaps occur among the slugs and I appeal to those members among you who are not squeamish to send me specimens for identification. A bait of damp bran laid on a convenient stone during late evening will usually produce a fine crop of slugs and snails. With the aid of a torch and a collecting box you could all rid your gardens of a few pests and at the same time help me enormously. To post them they should be put in a tin alive with some barely damp newspaper. Dead slugs are peculiarly revolting and quite unidentifiable!

The most notable single project carried out this year was the survey of the gravel pits belonging to Messrs. Hoveringham Gravels Ltd. at Wyboston, in the North of the County. This survey was carried out at the request of the Nature Conservancy at Monks Wood and a total of 62 species were found to be present.

Putnoe Wood was visited in March and a report submitted to the Secretary for inclusion with the information about other types of Flora and Fauna being amassed.

Once again I would like to thank those members who have sent me specimens for identification and hope that others will follow suit during 1971. One batch of specimens in particular deserves mention. The then Bird Recorder, Mr. A. J. Livett, deposited a bag of mixed shells on my doorstep one Sunday afternoon at the end of July. Among the many species were three healthy living specimens of *Helix pomatia*, the Roman Snail of gastronomic delight! This species was recorded in Victorian times from Bedfordshire as living in Luton and Ampthill. Since then no authenticated records have been submitted, although specimens exist just over the border in Hertfordshire along the railway embankment near Someries Castle.

The following tables put on record the complete distribution of Molluscs known in each 10 km. square in Bedfordshire. Detailed site information for any square can be obtained from me or from the Conchological Society of Great Britain.

Table showing distribution of Mollusca in each 10 Km. square in Bedfordshire area to January 1971

10 Km. squares

Mollusca species	SP 91	SP 92	SP 93	SP 94	SP 95	SP 96	TL 01	TL 02	TL 03	TL 04	TL 05	TL 06	TL 11	TL 12	TL 13	TL 14	TL 15	TL 16	TL 23	TL 24	TL 25	
<i>Theodoxus fluviatilis</i>	x	x			x	x				x	x							x	x			
<i>Viviparus viviparus</i>	x	x				x													x	x		
<i>contectus</i>						x			x	x	x							x	x			
<i>Valvata cristata</i>	x	x			x	x	x		x	x	x				x		x	x	x	x	x	
<i>piscinalis</i>	x	x				x	x		x	x	x			x	x		x	x	x	x	x	
<i>Pomatias elegans</i>	x						x	x	x					x	x	x						
<i>Acicula fusca</i>							x															
<i>Potamopyrgus jenkinsi</i>	x	x			x	x		x	x	x	x	x	x			x	x	x	x		x	
<i>Bithynia tentaculata</i>	x	x			x	x	x		x	x	x			x			x	x	x			
<i>leachii</i>	x				x	x			x	x						x	x	x				
<i>Carychium minimum</i>	x	x	x	x	x		x	x	x	x	x			x	x	x	x	x	x	x	x	
<i>tridentatum</i>	x	x	x	x	x		x	x	x	x	x			x	x	x	x	x	x	x	x	
<i>Lymnaea truncatula</i>	x	x	x	x	x		x	x	x	x	x				x	x		x	x	x	x	
<i>palustris</i>	x	x	x				x	x	x	x				x	x	x	x	x	x		x	
<i>stagnalis</i>	x	x			x	x	x	x	x	x	x			x	x	x	x	x	x			
<i>auricularia</i>	x	x			x	x	x		x	x	x							x	x			
<i>peregra</i>	x	x	x	x	x		x	x	x	x	x			x	x	x	x	x	x	x	x	
<i>Aplexa hypnorum</i>							x														x	
<i>Physa fontinalis</i>	x				x	x	x		x	x				x	x	x	x	x	x			
<i>acuta</i>							x											x	x			
<i>Planorbis carinatus</i>	x	x			x	x	x		x	x				x		x	x	x	x			
<i>planorbis</i>	x	x			x	x	x	x	x		x			x		x	x	x	x	x	x	
<i>vortex</i>	x	x	x		x	x	x	x	x	x	x			x	x	x	x	x	x	x	x	
<i>leucostoma</i>	x		x	x	x	x		x		x	x				x	x	x	x			x	
<i>laevis</i>																		x				
<i>albus</i>	x	x	x		x	x	x		x	x	x	x			x	x	x	x	x			
<i>crista</i>	x				x	x			x	x							x	x				
<i>contortus</i>	x				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
<i>Segmentina complanata</i>		x			x	x			x	x					x	x	x					
<i>Acroloxus lacustris</i>		x	x		x	x		x	x	x				x			x			x		
<i>Ancylus fluviatilis</i>	x	x			x	x				x	x			x		x	x				x	
<i>Succinea putris</i>	x				x			x	x					x	x	x	x	x				
<i>pfeifferi</i>	x	x	x		x	x	x	x	x	x				x		x	x	x	x	x	x	
<i>Azeca goodalli</i>		x	x					x	x	x	x				x	x	x					
<i>Cochlicopa lubrica</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
<i>lubricella</i>	x	x	x	x	x	x		x	x	x	x			x	x	x		x				
<i>Columella edentula</i>	x	x	x		x				x													
<i>Truncatellina cylindrica</i>																					x	
<i>Vertigo antivertigo</i>									x										x			
<i>substriata</i>									x													
<i>pygmaea</i>	x					x		x	x		x	x									x	
<i>Pupilla muscorum</i>	x	x			x	x	x	x	x	x						x	x	x			x	
<i>Lauria cylindracea</i>					x	x	x		x	x	x					x	x	x			x	
<i>Acanthinula aculeata</i>	x	x	x		x			x			x			x	x	x					x	
<i>Vallonia costata</i>	x	x	x	x	x	x		x	x	x	x			x	x	x	x	x	x	x	x	
<i>pulchella</i>	x	x			x	x	x		x		x				x		x	x				
<i>excentrica</i>	x	x			x	x		x	x	x	x	x		x	x	x	x	x	x	x	x	

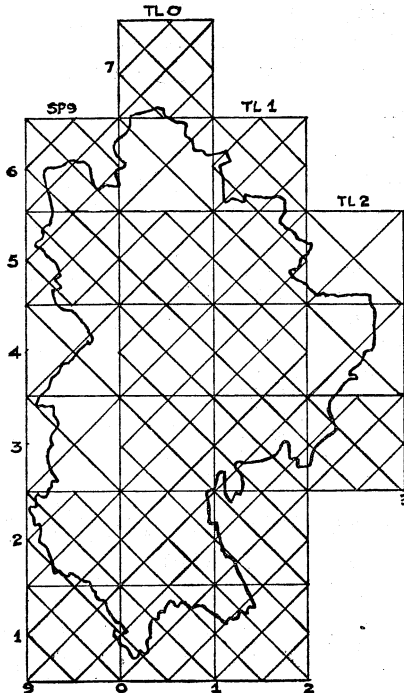




10 Km. squares

Mollusca species	SP 91	SP 92	SP 93	SP 94	SP 95	SP 96	TL 01	TL 02	TL 03	TL 04	TL 05	TL 06	TL 11	TL 12	TL 13	TL 14	TL 15	TL 16	TL 23	TL 24	TL 25	
<i>Ena obscura</i>	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X	X	X
<i>Marpessa laminata</i>	X	X		X		X	X	X	X		X	X	X	X	X	X				X		X
<i>Clausilia bidentata</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X
" <i>rolphi</i>							X															
<i>Abida secale</i>	X																					
<i>Cecilioides acicula</i>	X			X			X						X		X							X
<i>Helicigona lapicida</i>	X										X				X							
<i>Arianta arbustorum</i>	X	X			X		X	X	X		X		X	X	X	X	X			X	X	X
<i>Helix hortensis</i>	X	X	X			X	X	X	X		X	X	X	X	X	X			X	X	X	X
<i>Helix nemoralis</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>aspera</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>pomatia</i>													X									
<i>Hygromia striolata</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>hispida</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>liberta</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Monacha granulata</i>	X	X		X			X						X	X	X	X	X			X	X	X
" <i>cantiana</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Helicella caperata</i>	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
" <i>gigaxi</i>	X					X							X	X							X	
" <i>virgata</i>	X	X	X			X	X	X		X	X	X	X	X	X					X		
" <i>itala</i>	X	X				X	X	X	X		X		X		X					X		X
<i>Punctum pygmaeum</i>	X	X			X	X		X	X			X	X	X					X	X		X
<i>Discus rotundatus</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Arion intermedius</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>circumscriptus</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>hortensis</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>subfuscus</i>	X	X	X			X	X					X	X	X	X							
" <i>ater</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Euconulus fulvus</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Oxychilus draparnaldi</i>		X			X	X	X				X	X				X						
" <i>cellarius</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>alliaris</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>helveticus</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Retinella radiatula</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>pura</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>nitidula</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Zonitoides excavatus</i>							X															
" <i>nitidus</i>	X	X	X			X	X	X	X	X			X					X	X			
<i>Vitrina pellucida</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>major</i>		X																				
<i>Milax sowerbyi</i>								X					X									X
" <i>budapestensis</i>								X	X	X	X	X	X	X	X							
<i>Limax maximus</i>	X	X	X			X	X	X	X	X			X	X	X	X						X
<i>Lehmania marginata</i>	X		X											X								X
<i>Agriolimax reticulatus</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
" <i>laevis</i>	X	X	X	X	X	X	X	X	X	X	X		X						X	X	X	X
<i>Unio pictorum</i>	X	X						X	X	X										X	X	
" <i>tumidus</i>		X			X				X	X										X	X	
<i>Anodonta cygnaea</i>	X	X			X				X	X	X	X										
" <i>anatina</i>	X	X			X	X			X	X									X	X		
" <i>complanata</i>										X										X		

10 Km. squares

Mollusca species	SP 91	SP 92	SP 93	SP 94	SP 95	SP 96	TL 01	TL 02	TL 03	TL 04	TL 05	TL 06	TL 11	TL 12	TL 13	TL 14	TL 15	TL 16	TL 23	TL 24	TL 25	
<i>Sphaerium rivicola</i>		X				X																
„ <i>corneum</i>	X	X				X	X	X		X	X	X	X		X	X	X	X	X	X	X	X
„ <i>lacustre</i>	X	X	X			X	X	X	X		X	X	X		X	X	X					
<i>Pisidium amnicum</i>	X					X	X		X	X	X			X	X		X	X	X		X	
„ <i>casertanum</i>	X	X	X			X	X	X	X	X	X			X	X	X	X	X				
„ <i>personatum</i>	X	X		X	X			X	X	X	X				X	X	X	X	X		X	
„ <i>obtusale</i>								X									X					X
„ <i>miliium</i>	X					X	X		X	X	X	X	X				X	X	X			
„ <i>subtruncatum</i>	X	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
„ <i>supinum</i>						X	X		X	X							X	X				
„ <i>henslowanum</i>	X	X				X	X		X	X					X	X	X	X				
„ <i>hibernicum</i>	X					X	X		X	X							X					
„ <i>nitidum</i>	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
„ <i>pulchellum</i>						X	X															
„ <i>moitessieianum</i>						X	X				X	X										
„ <i>tenuilineatum</i>												X										
<i>Dreissena polymorpha</i>	X	X				X					X	X					X	X				
<i>Vitrea crystallina</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
„ <i>contracta</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total 118 species	85	84	53	41	71	88	61	71	70	65	86	41	62	60	72	66	78	70	60	50	42	



 41-60 SPECIES  
 61 > SPECIES

MRS. E. B. RANDS.

## LIBRARY NEWS

The Society has organised a journal exchange programme with a number of natural history organisations and below is a list of Societies whose current publications the library now holds. Unless otherwise stated, the journal is an annual publication.

Cambridge Bird Club.

Cambridgeshire and Isle of Ely Naturalists' Trust.

Devon Trust for Nature Conservation. Quarterly.

Essex Bird Watching and Preservation Society.

Gloucestershire Trust for Nature Conservation.

Hertfordshire and Middlesex Trust for Nature Conservation.

Lake District Naturalists' Trust.

Lancashire Naturalists' Trust.

London Natural History Society.

Middle-Thames Natural History Society.

Norfolk Naturalists' Trust.

Northamptonshire Naturalists' Trust.

Northumberland, Durham and Newcastle-Upon-Tyne Natural History Society.

Shropshire Conservation Trust. Three per year.

Suffolk Naturalists' Trust. Two per year.

Sussex Ornithological Society.

Wiltshire Archaeological and Natural History Society.

In addition the library also receives the newsletters of the following Societies :

Cornwall Naturalists' Trust.

Derbyshire Naturalists' Trust.

Leicestershire and Rutland Ornithological Society.

Any of the above can be borrowed by writing to The Librarian, 17 Pentland Rise, Bedford. As this is a new scheme and the library has at present only a limited stock of journals available for loan, members will be limited to borrowing only one journal at a time which must be returned within fourteen days from the date of issue.

The Librarian has the following back-numbers of the Society's Journal for sale at 10p per copy :

Vols. 1-7	covering the years	1946-52.
Vols. 9-10	" " "	1954-55.
Vols. 12-14	" " "	1957-59.
Vols. 16-19	" " "	1961-64.

R. B. STEPHENSON.

## EUROPEAN CONSERVATION YEAR IN THE BOOK WORLD

BY R. B. STEPHENSON

It was inevitable that 1970 should produce a larger than usual output of books covering every conceivable aspect of natural history. However, the increase in quantity did nothing to lessen the quality and some books

such as 'Collins' Field Guide to the Butterflies of Britain and Europe' and 'The Hamlyn Guide to the Birds of Britain and Europe' will remain standard works of reference for the amateur naturalist for many years. The following is a selective list — it would be impossible to produce a comprehensive one — of books published during 1970 covering some aspect of natural history or dealing specifically with the problems of wildlife conservation. It is intended as a guide for those members who are either enthusiastic book collectors or avid library users.

**ADAMS, A. B.** *The Eternal Quest: The Story of the Great Naturalists.* Constable. £3.15.

An illustrated account of those who made the chief contributions to man's search for his place in the natural world — from Aristotle, Pliny and Lucretius to Darwin, Huxley and Mendel.

**BEAMISH, T.** *Aldabra Alone.* Allen & Unwin. £3.00.

The author describes his visit to this tiny uninhabited coral island in the Indian Ocean, which is a sanctuary for many species of wildlife, and his fight to preserve the island in the face of a threat to build an airstrip on it.

**BRUUN, B. and SINGER, A.** *The Hamlyn Guide to the Birds of Britain and Europe.* Hamlyn. £1.25.

An excellent pocket field guide to all the birds which regularly breed or occur in Europe and to most of the less common visitors.

**GRZIMEK, B.** *Among Animals of Africa.* Collins. £2.25.

An illustrated record of the author's recent adventures in Africa, in which he describes the latest methods of observing and protecting wild animals.

**GUGGISBERG, C. A. W.** *Man and Wildlife.* Evans. £3.50.

An account of the relationship between man and animal, examining the destruction that man has wrought upon his environment. Includes a survey of National Parks and lists the species that have already become extinct.

**HARTHOORN, A. M.** *The Flying Syringe.* Bles. £3.50.

World famous as a pioneer in the use of immobilising drugs on Africa's larger wild animals, the author describes ten years of progress in the art of projecting loaded darts from the early experimental days to the successful operations of today such as the Kariba Dam rescue and the relocation of the White Rhinoceros in Natal.

**HIGGINS, L. and RILEY, N.** *A Field Guide to the Butterflies of Britain and Europe.* Collins. £2.25.

An invaluable guide illustrating every species of butterfly in colour, with 750 life-size paintings. Also includes a distribution map for each species and information on size, markings, habitat and characteristics.

**HUTCHINGS, M. and CAVER, M.** *Man's Dominion.* Hart-Davis. £2.10.

The story of man's cruelty to animals and an examination of his subsequent attempts to protect them.

**LAWICK-GOODALL, H. & J.** *Innocent Killers.* Collins. £2.25.

A study of the hyena, jackal and wild dog, describing their characteristics, habits and social status.

**PHILIP, Duke of Edinburgh, and FISHER, J.** *Wildlife Crisis.* Hamilton. £4.20.

Prince Philip's personal record of his participation in the conservation movement, together with a history of the conservation of wildlife by the late James Fisher. Includes an illustrated section on the species which are or soon may be extinct.

ROBBINS, E. *The Ebony Ark*. Barrie & Jenkins. £1.75.

The story, both fascinating and hopeful, of the work being done by the independent African nations to preserve their wildlife.

RUSSELL, F. *Searchers at the Gulf*. Hamilton. £2.50.

Describes a year in the natural life of the St. Lawrence, covering birds, animals and fish and told with unsentimental detail.

TINBERGEN, N. and others. *Signals for Survival*. O.U.P. £2.00.

Based on the film of the same title which was awarded the 1969 Italian prize for television documentaries. It describes and interprets the sign language of the Lesser Black-backed Gull.

WHITTLE, T. *The Plant Hunters*. Heinemann. £2.10.

Chronicles the adventurous and often heroic stories of the men who travelled the world in search of new and exotic plants — includes appendices on plant distribution, collecting techniques and the preservation of specimens.

### **HARDWICK SPINNEY 1970**

Hardwick Spinney is a small woodland of nearly 1.6 acres situated at Bury End, in the extreme north of Stagsden parish, about a quarter of a mile to the north-west of Burdelys Manor farm, to which it belongs. Its National Grid Reference is SP 979509. It is on a high and exposed plateau, about 275 ft. above Ordnance Datum and, at present, it is surrounded by arable fields which are bounded by low treeless hedges. In shape the spinney is long and narrow, with an average width of under 50 yards, the south-eastern and north-western sides being roughly parallel and about 140 and 185 yards long respectively. The eastern and south-western sides are much shorter, measuring only about 50 and 40 yards respectively.

There are about thirty-five mature oak and ash trees, with an under-canopy and shrub layer, containing field maple, spindle, blackthorn, hawthorn, crab-apple, hazel, privet and wayfaring-tree. The ground flora, which used to be such a striking feature of the spinney in spring-time, contained an abundance of primroses, bluebells and wood violets, but these have dwindled considerably in the past twenty years.

Reference to the Enclosure Award map of 1828, which can still be studied in the County Records Office, shows that there has been no change in the size of the spinney during the past 142 years, at least.

In 1953, members of the Society carried out a detailed survey of the spinney, by kind permission of Mr. D. W. Elliott, the owner at the time. At least twenty species of birds were found to be nesting there, and nearly sixty species of plants, shrubs and trees were recorded. Some unusual insects were also noted, including the Purple Hairstreak butterfly and the Copper Underwing moth. A hut was built, embodying an elevated 'hide' for bird observation and photography, and a pond and feeding-table were constructed; a number of nesting-boxes was put up in various parts of the spinney. Results of the survey were published in Volume 8 of the Society's Journal.

Unfortunately, this initial effort was not maintained, and regular visits to the spinney ceased soon afterwards; it was not until March, 1970, that suggestions were made for a renewal of activities there, partly under the influence of European Conservation Year. A preliminary visit was made on the evening of the 4th June by Messrs. A. W. Guppy and H. A. S. Key, to meet one of the present owners, Mr. M. J. Cartwright, and to assess the existing state of dereliction. Following further negotiations, an agreement with the owners was signed at the end of August whereby a working party of members of the Society was permitted to

undertake the management of the spinney with a view to seeing to what extent its natural history interest could be restored.

Since the beginning of September parties have been working at Hardwick nearly every week-end, and a tremendous amount of clearance and cutting-back of undergrowth has been carried out. The general intention is to increase very materially the amount of light reaching the spinney floor, and thus to encourage the growth and flowering of various species which would otherwise remain dormant if subjected to continuous dense shade.

Hardwick Spinney provides a conveniently small area of established woodland on which to carry out experiments in methods of rehabilitation and thus obtain valuable evidence which can be applied elsewhere, but immediate results cannot, of course, be expected, and several seasons must elapse before the full effects of current work can be assessed.

### PUTNOE WOOD 1970

In 1969 we were able to report the initial approaches made by the Society to Bedford Corporation concerning the future of Putnoe Wood, and the necessity of adopting a long-term plan for its management, and it was very satisfactory that, as a result, a joint working party was set up and outline management proposals were accepted. It was most appropriate that in 1970, European Conservation Year, the plans of 1969 assumed definite detailed form, and began to be put into effect. Above all, the recognition by the local authorities of the Society's role, that of a knowledgeable and disinterested body, concerned only with the conservation of the wood, and as an essential partner in the management programme, has been very gratifying. This establishment of a working relationship with the Corporation officials and committees is an entirely new aspect of the Society's work, and provides incentives and opportunities which were hitherto not available for the members.

During the month of March, and in spite of the blizzard of the 4th, a working party carried out a vegetation survey, establishing the distribution of trees and undergrowth throughout the wood; nearly sixteen hundred trees were classified and measured in the ten areas into which the wood has been arbitrarily divided. These results were reported to the Nature Conservancy as a necessary preliminary to any detailed future plans.

At the end of March a survey of the mollusca was carried out by Mrs. E. B. Rands, and twenty-five species were recorded. This is a very good count for a single wood and includes one comparative rarity, the Three-tooth Moss snail, *Azeca goodalli*, as well as the local Plaited Door Snail, *Marpessa laminata*.

On the 12th June, the Corporation issued its first public statement concerning the wood and its future, and this was published in the 'Town Talk' feature which appears periodically in the 'Bedfordshire Times'. This gave a comprehensive account of the preceding discussions with the Society's representatives, as well as the full text of the outline management proposals.

In August, after consultation with the Nature Conservancy and several meetings of the Society's Scientific sub-committee, a detailed series of proposals was drawn up for submission to the Town Council through its Chief Engineer, Mr. J. C. Coulson, who has at all times shown the greatest appreciation of the Society's assistance and ideas.

These proposals fell into two categories, one concerned with the boundary hedges, fences and entrance gates, the other dealing with the actual items of woodland management. The majority of these proposals

was accepted by the Recreation Committee at their meeting on the 10th September, and eventually passed by the Town Council on the 7th October. In view of a rather misleading and garbled report of this latter meeting in the press it was thought advisable for the Society's Chairman to write a letter setting out the true facts, and this was published in the 'Bedford Record' of the 27th October.

The woodland management proposals were for the clearance to a uniform width of the Long Ride through the wood and the removal of a fallen tree which blocked it, the felling of a few unwanted sycamores and diseased elms, and the re-introduction of a coppicing cycle in an area of about one acre selected by representatives of the Nature Conservancy. This latter is, in many ways, the most important step because it initiates a period in which increased light will be admitted to the floor of the wood, with consequent reaction upon the ground flora, much of which remains dormant if too heavily shaded throughout the year. This clearance and coppicing work was carried out very expertly by Corporation employees at the beginning of November.

Meanwhile, the Society's working party has been engaged nearly every week-end in carrying out its own agreed programme of work. This includes the removal of several sycamore poles, the deepening and extension of a small pond at the north-western edge of the wood and the clearance of a central glade at the junction of the Long Ride and the path which intersects it. The following members of the Society assisted with the vegetation survey and the autumn work: Mr. W. J. Champkin, Miss E. Charlson, Miss E. M. Day, Mr. and Mrs. Dymond, Mr. A. W. Guppy, Mr. and Mrs. Key, Mrs. V. Sharman and Mr. L. A. Speed.

One of the stated objects of management is the use of the wood for educational purposes, and the Borough Education Officer has already sent a circular to the local schools to draw the attention of teachers to the potential uses of the wood and to the ways in which the Society can assist them. Replies from interested schools have been received, and arrangements have been made for talks and nature trails to be available to them in the spring. The Society will, in fact, be preparing a booklet on the wood for the use of teachers and others.

Although the foregoing has dealt exclusively with Putnoe Wood, the Society has no intention of allowing the authorities to overlook the natural history interest of the old green Putnoe Lane running along the east side of the wood. We have been assured that as much as possible of this lane and its hedgerows will be retained in its unspoilt condition.

## **BOTANICAL SITES REVISITED**

By A. W. GUPPY

From a botanical point of view it is just as necessary to revisit familiar places at frequent intervals as it is to seek out fresh ones. For one thing, it is impossible in a single visit to record every species that occurs in any particular area; for another, species flourish or dwindle in an apparently unpredictable way, and it is quite unsafe to assume that, because such-and-such a plant was present ten years ago, it is still there today, or will be so in ten years' time.

It is with such considerations in mind that the writer visited a number of previously-known sites in and around Bedford during last summer, more especially those containing uncommon species which one would not like to see becoming extinct.

Along the north side of the main Bedford to Northampton road in Biddenham there is a hedgerow where the Wild Clary (*Salvia horminoides*) used to be locally abundant, but the overgrowth of the hedge in some places, and attempts to 'civilise' the bank in others, have together brought about a considerable diminution in the number of plants. It was therefore satisfactory to find that several had come up in a new place, on the wide grass verge between road and footpath. A much rarer species, recorded from Biddenham by Abbot, is the strongly-aromatic Catmint (*Nepeta cataria*) which grows quite near to the Clary, but of which only two rather poor plants could be found in the hedge bottom.

Next, to Bromham, near the Garage, to visit an extremely tenacious patch of Soapwort (*Saponaria officinalis*). Year after year it has defied the onslaughts of road-men, the dumping of sand and road chippings and the erection alongside of a new housing estate; it was good to see that it was flowering profusely, as usual.

Round the corner, in the fields near Bromham Grange Farm, was an old-established station for the Tansy (*Tenacetum vulgare*), noted by Abbot in 1798. In the 1958 Journal (Vol. 13, p. 47) the writer expressed the fear that it had been destroyed by the extensive building that had taken place, but, in fact, a few plants survived on the east side of the road, near the little bridge over the brook, and they have flowered annually until this year, when, for the first time, there was nothing. It looks as if this habitat has gone the same way as that of the Vervain (*Verbena officinalis*), which used to grow on the other side of the road there half a century ago.

Three-quarters of a mile further west, out at Dropshort, on the Newport Pagnell road, the extremely rare Corn Cow-wheat (*Melampyrum arvense*) flowered well this year, although it was not as fine as it was seven or eight years ago. Here, too, were some good plants of the Henbane (*Hyoscyamus niger*), which, although outside the Naturalists' Trust reserve marker posts, were left undisturbed right through to seeding time, so that we may hope to see more of this rather elusive species. Of course, the Danewort (*Sambucus ebulus*) is well-established on adjacent lengths of roadside between here and the Wick End turn, and certainly seems in no danger of extinction at present.

To the north of the town, the Naturalists' Trust has marked off two lengths of roadside verge as nature reserves, by agreement with the County Surveyor, on the narrow lane leading from the summit of Cleat Hill past Graze Hill to Ravensden Wood End. These were visited on several occasions, and one could not but be struck by the rich flora of the stretch near Manor Farm. Here one finds the two unusual Sulphur and Zig-zag Clovers (*Trifolium ochroleucon* and *T. medium*) growing together, as well as the Pyramidal Orchid (*Anacamptis pyramidalis*). The two rarities of the other length of roadside are the Elecampane (*Inula helenium*) and the Saw-wort (*Serratula tinctoria*). The former did not have a good year, but the latter was particularly fine. It is worth noting that the three localities given in the Ouse district for this species in Dr. Dony's 'Flora' are really one and the same place; the difficulty has always been to find an accurate topographical description of the site!

The southern slopes of Mowsbury Hill, north of Putnoe Wood, are in process of being turned into a municipal golf-course, and it will be interesting to see what effect this will have upon the local flora. In the middle of the field are the old butts, relic of a long-forgotten rifle-range, and now a deep scrub-filled hollow. Here, in the late summer there was a fine crop of young plants of the Hound's Tongue (*Cynoglossum officinale*) growing in the unploughed stubble round the butts. It is already fairly plentiful at the top of the hill, around the Mowsbury earthworks, and the new golf-course may enable it to survive lower down, as well.



Nowadays, more species seem to come up in the stubble after a cereal crop is harvested than is the case earlier in the season, no doubt as the result of spraying. With warm weather prolonged well into the autumn, as in 1970, such plants have a chance to mature and flower if the field remains unploughed, and four species were noted in full bloom during the last week of October, the Fool's Parsley (*Aethusa cynapium*), Dwarf Spurge (*Euphorbia exigua*), Scarlet Pimpernel (*Anagallis arvensis*) and Fluellen (*Kickxia spuria*).

In previous years attention has been called to some of the less common species which appear on derelict sites in the centre of Bedford. Demolition continues, and there have been big changes in Castle Lane, where the 'Three Tuns' public-house is the sole survivor of a formerly densely-populated area. In the yard next door, scene this year of Mr. David Baker's excavations, and formerly used by Messrs. Harrison-Gibson, the 'Gallant Soldier' or 'Kew-weed' (*Galinsoga parviflora*) is still well-established, but it was no longer possible to find the Small Yellow Balsam (*Impatiens parviflora*) in a derelict garden near by. However, one is glad to report that this latter species is growing strongly in the back premises of a shop at the north end of High Street into which an annual (and unauthorised) entry is made to establish its continued existence! Quite by chance, a week or two later, the same species was found in the front garden of a house in Burnaby Road, near the entrance to Bedford School.

During periodic visits to Bedford Cemetery the writer had long noted that comparative rarity, the Shining Cranesbill (*Geranium lucidum*), and one could be fairly certain of finding it growing in the crevices of the stone slabs which cover the large and austere grave of one, Annette Sparks, a lady who kept a small private school in Bedford and who died in 1894. In an unfortunate moment the writer once brought home a small piece of this plant, which eventually found its way to the garden rubbish heap, but its powers of dispersal had been overlooked (it has explosive seed capsules, like other members of the family), and it has never been possible subsequently to get rid of it; plants come up at all seasons of the year in every corner of the garden. The Cemetery authorities have had more success in eliminating another insidious plant, the Winter Heliotrope (*Petasites fragrans*), a close relative of the Butterbur and, like it, a plant which flowers in the early months of the year, with a scent resembling vanilla. This used to monopolise a rockery which bordered the southern path, about fifty yards from the main entrance, but the rockery has now completely disappeared and, with it, all trace of the plant.

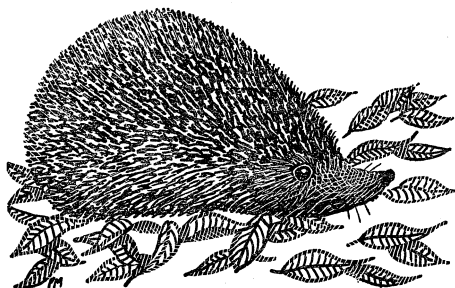
## NEW MEMBERS

- a* Associate                      *j* Junior                      *s* Student
- Barrett, R. A., 4 Bibshall Crescent, Dunstable.  
Beswick, D. D., 112 Hockwell Rise, Leagrave, Luton.  
*s*Clark, G. M. A., 227 High Street South, Dunstable.  
Clark, Mrs. N., 227 High Street South, Dunstable.  
*a*Cook, Mrs. A., 82 Fermor Crescent, Luton.  
Daniels, Miss R., 71 Boswell Court, Bedford.  
*s*Dicker, R. W., 69 Churchfield Road, Houghton Regis, Dunstable.  
Game, A. H., 161 Barton Road, Luton.  
Gepp, P. A. M., Heath Manor, Heath and Reach, Leighton Buzzard.  
Harrison, Mrs. M. L., 136 Goldington Road, Bedford.  
Hawkes, H. P., 4 Kenneth Road, Luton.  
Headford, E. G., 69 Risborough Road, Bedford.  
Jackson, K., 48 Langdale Road, Dunstable.  
*s*Jury, S. L., 3 Grove Road, Leighton Buzzard.  
Kenny, M. G. M., Dell Farm, Whipsnade, Dunstable.  
McDowell, Miss M., 33 King Edward Road, Bedford.  
Pattison, Dr. J., 18 Fairford Avenue, Luton.  
Pattison, Mrs. V., 18 Fairford Avenue, Luton.  
Pedley, Mrs. M. K., 23 Culverhouse Road, Luton.  
*j*Ponsford, M., 5 Havelock Rise, Luton.  
Quenby, Mrs. N. M., 178 Richmond Road, Leighton Buzzard.  
Read, Mrs. J., 12 Rossway, Slip End, Luton.  
*j*Samuels, G. J. W., 13 Monkshill, Bedford.  
*a*Sharpe, Mrs. A., 'Woodcote', Bedford Road, Northill, Biggleswade.  
Sharpe, R., 'Woodcote', Bedford Road, Northill, Biggleswade.  
*j*Tapner, Miss C., 44 Aldbanks, Dunstable.  
Tooley, Miss R. M., Bellows Mill, Eaton Bray, Dunstable.  
Weeks, D. J., 50 Park Avenue, Bedford.  
Wills, D. O., 7 Woodfield Drive, Leverstock Green, Hemel Hempstead.  
Wilscher, K. F., 10 Granby Road, Luton.  
*a*Winsland, Mrs. C. S., 11 Hawthorn Terrace, Brookside, Stagsden Road, Bromham, Bedford.  
Winsland, D., 11 Hawthorn Terrace, Brookside, Stagsden Road, Bromham, Bedford.  
*j*Winsland, S. D., 11 Hawthorn Terrace, Brookside, Stagsden Road, Bromham, Bedford.

## DEATHS

It is with deep regret that we record the death of the following member of the Society.

In December, 1970, Mrs. D. E. Felce, of Bromham, a member since 1947.



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