The BEDFORDSHIRE NATURALIST

BEING THE

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OF THE

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NATURAL HISTORY SOCIETY

FOR THE YEAR

1963

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1964

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EDITED BY A. W. GUPPY, B.Sc.

No. 18-1963

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Report of the Council

Having removed from the Register the names of those who have not paid their subscriptions for the past four years, the total membership now stands at 321; this is lower than the figure of 334, given as the total the previous year, which had not been subjected to any reduction. This year's figure, therefore, is much more realistic, but it would appear that our possible maximum is something in the region of 300 plus, which is difficult to understand when one considers the county population, the interest now taken in Natural History, the quality of the programmes offered and the very small cost involved. The general opinion of the Council is that they, as a body, can do little more about it, but individual members can, by introducing their friends. It is important that we increase our membership figure; we must do this to continue in existence.

It is with regret that we have to record that the year saw the passing of our first President, Mr Oliver Pike. Those of us who knew him well, will remember him as a man of great charm with a wealth of knowledge and an ever-ready willingness to help those seeking knowledge.

Our contacts with various other bodies, i.e. The County Trust, R.S.P.B., The Council for Nature, Nature Conservation and other County Natural History Societies, have been maintained on a most cordial basis, with (in many cases) an exchange of Journals and literature. The Council have in mind a scheme whereby this literature can be made available to members of the Society.

Throughout the year meetings were arranged to cater for all interests, with field meetings concentrated on the summer months with indoor meetings being exclusively winter meetings. Most of these were only indifferently attended and usually by the same people, the average being in the twenties.

The Council made the decision early in the year to give a film show at both Luton and Bedford once a year, the Luton one to be in the spring and the Bedford one in the autumn. It was thought that these would make available to our members some of the really excellent films now to be seen and would augment our funds. The one held at Bedford in October, although it made a profit of £6 or so, could hardly be considered a success. Unfortunately it was timed for a week containing many counter-attractions and, due to inexperience, our organisation was lacking in some details, but it is hoped that these ventures will receive the utmost support possible.

The Bird Bulletin, organised from Luton, has again had a most active and interesting year. As the main interest of most of our

members is Ornithology it is recommended that all those so interested should subscribe to the Bulletin, as the amount of information made available is well worth the very small extra cost.

Your Hon. Editor would welcome from any member details of any special work undertaken, articles upon any relevant subject, observations and notes. He is always willing to help in arranging anything submitted for publication, and it should be remembered that where this is original work, any reprints necessary can be arranged with the printers.

In conclusion, the Council would remind all members that subscriptions are always due on January 1st, a fact quite a number of us appear to forget. Prompt payment does help the Treasurer, and, please, do introduce that friend.

KENNETH E. WEST,

Hon. General Secretary.

BEDFORDSHIRE NATURAL HISTORY SOCIETY AND FIELD CLUB

STATEMENT OF ACCOUNTS FOR THE YEAR ENDED 31st DECEMBER, 1963

RECEIPTS	£ s. d.	£	s.	d.	PAYMENTS	£	s.	d.
Cash at Bank and in Hand 1st			٠.		Printing, Postages and Stationery	38	1	4
January, 1963		160	6	6	Meetings—Expenses	38	5	7
Donations and Subscriptions:					Bedfordshire Naturalist Journal	81	7	0
Subscriptions 1963 and arrears	116 13 0				Balance of Loss on Hosking Lecture	4	1	- 6
Subscriptions 1964/65	13 12 6				Subscriptions and Donations to other Societies	3	11	0
Life Subscription	10 0 0		_		Projector Screen	14		6
		140	-	6	Sundry Expenses	13	14	- 2
Surplus on Bird Bulletins		5	14	6	Cash at Bank 31st December, 1963 129 3 8			
Surplus on Coach Trips			3	Ü	Cash in Hand 31st December, 1963 8 10 9	105		
Surplus on Film Show		16		3		137	14	- 3
Collections at Meetings		1	2 10	0				
Donations Bedfordshire County Council pay-			10	U				
ment for Journals supplied to								
Mander College		2	0	0				
		£331	3	6		£331	3	6

We have examined the above Account with the books and vouchers of the Society and certify it to be correct in accordance therewith.

BEDFORD.

4th March, 1964.

THORNTON BAKER & CO.,

Chartered Accountants, Hon. Auditors.

PROCEEDINGS 1963

Indoor Meetings

175TH ORDINARY MEETING, 10th January, 1963, Bedford. "Evolution and the Species" by Dr D. G. Rowlands. Attendance 17. Chairman: F. G. R. Soper.

176TH ORDINARY MEETING, 17th January, 1963, Luton. Cine films: "Evolution in Progress", "Island of Birds", and "The Marsh Fritillary". Attendance 18. Chairman: M. D. Wortley.

177TH ORDINARY MEETING, 31st January, 1963, Bedford. "Photographing Nature through the Seasons" by H. A. S. Key. Attendance 31. *Chairman*: F. G. R. Soper.

178TH ORDINARY MEETING, 7th February, 1963, Luton. Film Show "Wild Spain" with commentary by Eric Hosking. Held in the Hall of Luton College of Technology; all seats were for sale only. Chairman: I. J. Ferguson-Lees.

179TH ORDINARY MEETING, 21st February, 1963, Bedford. "American Holiday" by Miss P. Soper. Attendance 43. Chairman: F. G. R. Soper.

180TH ORDINARY MEETING, 28th February, 1963, Luton. "The Small Isles" by E. Meadows. Attendance 34. Chairman: S. W. Rodell.

181st Ordinary Meeting, 7th March, 1963, Bedford. Symposium on Felmersham Gravel Pits. Attendance 29. Chairman: F. G. R. Soper.

SPECIAL FILM SHOW, 12th March, 1963, Dunstable Town Hall. Arranged jointly by the W.I. and the Society. The film "Sea Bird Summer" was shown. Attendance 153. *Chairman*: Mrs Pain of the Federation of Women's Institutes.

16TH ANNUAL GENERAL MEETING, 21st March, 1963, Bedford. Attendance 71. Chairman: F. G. R. Soper. Details as printed in last issue, No. 17, 1962, page 9.

182ND ORDINARY MEETING, 28th March, 1963, Luton. "Nature Magazine". Attendance 32. Chairman: R. G. O. Stephenson.

183RD ORDINARY MEETING, 9th October, 1963, Luton. Cine films of Bird Observatories. Attendance 25. Chairman: R. G. O. Stephenson.

184TH ORDINARY MEETING, 17th October, 1963, Bedford. Film Show at the Civic Theatre "Sea-bird Summer" with recorded commentary by James Fisher. Chairman: F. G. R. Soper.

185TH ORDINARY MEETING, 7th November, 1963, Luton. Cine films "Mice and Man" and "Beauty in Trust", an account of the National Trust. Attendance 20. Chairman: M. D. Wortley.

186TH ORDINARY MEETING, 14th November, 1963, Bedford. "Natural History over the Years with a Camera" by the President. Attendance 47. Chairman: F. G. R. Soper.

187TH ORDINARY MEETING, 11th December, 1963, Luton. "What Forestry really means" by D. Small, District Officer of the Forestry Commission. Meeting abandoned owing to an attendance of 2.

188TH ORDINARY MEETING, 19th December, 1963, Bedford. Miscellaneous Nature Slides by W. J. Champkin. Attendance 31. *Chairman*: F. G. R. Soper.

Field Meetings

SUNDAY, 3RD FEBRUARY, 1963. BLACKWATER ESTUARY. Leader: M. D. Wortley. See below under Ornithological Section.

SUNDAY, 24TH MARCH, 1963. RAVENSDEN WOODS. Leader: L. A. Speed. Twelve members attended this meeting; the day was fine but with an unpleasantly cold wind. Due to the exceptionally cold winter the usual spring plants were almost completely absent, apart from a few shoots of Dog's Mercury just breaking through. Very few birds were seen, a few starlings and a magpie. An active colony of badgers was evident by the very recent disturbance of soil around the entrance to their sett, and a fox's earth, also showing signs of recent occupation, was found a short distance away.

SUNDAY, 7TH APRIL, 1963. ELTISLEY WOODS. Leader: K. E. West. The main object of this particular outing was to see the Oxlip, Primula elatior, and we were fortunate in finding many good specimens in spite of the somewhat late season. A second visit a fortnight or so later would have been necessary to see it at its best. Another item of interest was a small Ash still covered with a wealth of last year's seed all of which without exception had been attacked by an unidentified gall. After leaving Eltisley a visit was made to an extensive colony of Green Hellebore, Helleborus viridis, many members taking photographs of this uncommon plant. The weather was excellent—a typical spring day. Attendance 35.

SUNDAY, 5TH MAY, 1963. DAWN CHORUS, SOUTHILL PARK. Leader: M. D. Wortley. See below under Ornithological Section.

SUNDAY, 12TH MAY, 1963. LONG MYND. Leader: H. A. S. Key.

THURSDAY. 23RD MAY, 1963. FELMERSHAM GRAVEL PITS. Leader: A. W. Guppy. This meeting was arranged as part of National Nature Week and there was a good attendance, including several visitors.

Monday, 3rd June, 1963. Castor Hanglands. Leader: Dr D. M. Jeffreys.

THURSDAY, 6TH JUNE, 1963. RUSHMERE HEATH. Leader: R. G. O. Stephenson. See below under Ornithological Section.

SUNDAY, 9TH JUNE, 1963. KEW GARDENS. Leader: Thirty-five members visited Kew Gardens, travelling by special coach. The weather was bright and hot, and although a thunderstorm broke in the afternoon this did not interfere with the enjoyment since the greenhouses were then open. The party broke up into several groups to pursue particular individual interests. An outstanding feature of the visit was a group of gardens planted with irises, making a magnificent show, both in size and colour. Kew is one of the best bird sanctuaries in the country, and many species were observed, some at very close quarters.

SUNDAY, 16TH JUNE, 1963. TOTTERNHOE. Leader: E. G. Meadows. The weather was dull and threatening rain. The small party of six members explored Totternhoe Knolls where the Man and Musk Orchids were found in bloom, together with the Great Earth-Nut, Bunium bulbocastanum, which occurs in few other places. Another of the umbellifers in flower was the Burnet Saxifrage, Pimpinella saxifraga.

Sunday, 30th June, 1963. The New Forest. Leader: Dr D. M. Jeffreys.

SUNDAY, 7TH JULY, 1963. COLWORTH HOUSE. Leader: Dr D. G. Rowlands.

Sunday, 14th July, 1963. Wood Walton Fen. Leader: B. B. West. Sunday, 28th July, 1963. Salcey Forest. Leader: Dr D. M. Jeffreys. Twenty-six members were present. Although the weather was fine, the day was thoroughly disappointing insofar as only White Admiral, Limenitis camilla, was seen, without sign of any fritillaries, a fact which is largely explained by reports of the spraying of the forest from aircraft against the Green Tortrix. This activity only confirms the total conflict between the Forestry Commission and the naturalist. It was also understood on the outing that permits are now needed to collect in Salcey Forest; this seems ironical when the very agency which requires permits is the main agent of destruction itself.

SUNDAY, 20TH OCTOBER, 1963. FUNGUS FORAY. Leader: Derek Reid. For a full report on this meeting see below.

SUNDAY, 8TH DECEMBER, 1963. ABBERTON RESERVOIR. Leader: M. D. Wortley. See below under Ornithological Section.

The Fungus Foray

Judged by any standards the fungus foray, which was held at Maulden Wood on October 20th, 1963, cannot be said to have been a successful meeting. This was due to awful weather and a scarcity of fungi. About 20 people set out in a fine drizzle but as this increased to a fairly heavy rain so the party dwindled to about 6 stalwarts. By lunch time the weather improved slightly only to worsen again later in the afternoon.

The scarcity of fungi was by no means confined to the woods we visited but was merely the result of one of the worst collecting seasons for many years. No doubt Maulden Wood is an excellent locality with its mixed areas of deciduous trees and conifer plantations, and perhaps it will be possible to revisit the site another year. As it is, the list gives a false impression of the numbers of fungi present, for the species were mostly represented by single specimens.

Despite this scarcity of fungi 80 species were found of which 14 were new to the county, and one confirms an ancient record.

Bolbitius vitellinus (Pers.) Fr.; Clitocybe dicolor (Pers.) Lange; C. clavipes (Pers.) Fr.; C. geotropa (Bull.) Fr.; C. vibecina Fr.; Collybia maculata (Alb. & Schw.) Fr.; C. radicata (Rehl) Berk.; *C. rancida (Fr.) Quél.; Coprinus micaceus (Bull.) Fr.; Flammula penetrans (Fr. ex Fr.) Quél.; *F. penetrans forma hybrida (Fr. ex Fr.) Kuhn. & Romag.; Gomphidius rutilus (Schaeff.) Fr.; Hebeloma sacchariolens Quél.; Hygrophorus hypothejus Fr.; Hypholoma fasciculare (Huds.) Fr.; H. hydrophilum (Bull.) Fr.; H. velutinum (Pers.) Fr.; Inocybe geophylla (Sow.) Fr.; I. geophylla var. lilacina Fr.; Laccaria laccata (Scop.) Cooke; Lactarius deliciosus (Linn.) Fr.; L. quietus Fr.; L. rufus (Scop.) Fr.; Lepiota amianthina (Scop.) Fr.; Marasmius androsaceus (Linn.) Fr.; M. erythropus (Pers. ex Fr.) Kummer [= M. acervatus sensu auct.]; M. confluens (Pers.) Karst.; M. myosurus (Fr. ex Fr.) Karst.; M. peronatus (Bolt.) Fr.; *M. tenacellus (Pers. ex Fr.) Favre; Mycena alcalina Fr.; M. epipterygia (Scop.) Fr.; M. galopus var. alba Hornem.; M. polygramma (Bull.) Fr.; M. sepia J. Lange [= M. filopes sensu auct.] *M. viscosa (Secr.) Maire; *Nolanea juncinus (Kuhn. & Romag.) Orton; Pleurotus acerosus Fr.; *Psathyrella microrhiza (Lasch) Konrad & Maubl.; *Russula cessans Pearson; R. drimeia Cooke; R. nigricans Fr.; R. ochroleuca Fr.; Stropharia aeruginosa (Curt. ex Fr.) Quél.; *Tricholoma imbricatum Fr.; T. nudum Fr.; T. psammopus (Kalchbr.) Fr.; T. rutilans (Schaeff.) Fr.; T. scalpturatum Fr.; T. terreum Fr.; Tubaria autochthona (Berk. & Br.) Sacc.; T. furfuracea (Pers.) Gillet;

Boletus granulatus (L.) Fr.;

Fomes annosus (Fr.) Cooke; Polyporus kymatodes Rost.; Polystictus versicolor (L.) Sacc.; Poria versipora (Pers.) Baxter;

*Odontia crustosa (Pers.) Quél.;

Typhula erythropus (Bolt.) Fr.;

Corticium laeve (Pers.) Quél.; Stereum hirsutum (Willd.) Fr.; S. sanguino-lentum (Alb. & Schw.) Fr.; Thelephora terrestris (Ehrh.) Fr.;

Phallus impudicus (L.) Pers.; Scleroderma verrucosum (Vaill.) Pers.; S. vulgare (Horn.) Fr.;

Dacrymyces deliquescens (Bull.) Duby;

Cyathicula coronata (Bull. ex Fr.) de Not.; *Helotium scutula (Pers.) Karst.; *Pezicula scoparia (Cooke) Dennis; *Polydesmia pruinosa (Berk. & Br.) Boud.;

Xylaria hypoxylon (L. ex Fr.) Grev.; X. polymorpha (Pers. ex Fr.) Grev.; Isaria farinosa Fr.; *Libertella dissepta Trav.; Ptychogaster albus Corda; *Septoria stachydis Rob. & Desm.;

†Trichia contorta.

* New county record.

† A confirmation of existing records.

DEREK A. REID.

Ornithological Section

The Section's first field meeting took place on Sunday, 3rd February, on the Blackwater estuary in Essex. Six hardy members made the journey to Abberton Reservoir on icy roads, but found it completely frozen over. The meeting was therefore switched to Shinglehead Point near Tollesbury. The wind was light to fresh north-east, with bright periods and snow showers, the temperature remaining below freezing-point all day. foreshore presented a fantastic sight, with great blocks of ice piled up at high water mark to a height of three or four feet. Even the salt water had frozen into small crystal balls as the tide receded on the mud flats, and pack-ice could be seen some two to three miles out on the open sea. The bird population was extremely low, with only a few small flocks of There were two flocks of Common Eider Duck noted off the point. numbering 25 to 30 and a party of 12 to 15 Common Scoter, with a few Wigeon and Shelduck. A pair of Red-breasted Merganser were also noted, as well as two or three small flocks of Brent Geese, the largest which allowed close approach numbering 30. The most unusual occurrence was of four to six Lapland Bunting feeding along the sea wall and allowing very close approach. The wader population was also very depleted owing to the severe weather, Curlew being the most abundant species.

The first big film-show to be held in Luton on the 7th February was not as successful as had been hoped owing to adverse weather conditions. The film chosen was "Wild Spain"; the standard of photography was extremely high and Eric Hosking's commentary was superb.

Sixteen people came to the Dawn Chorus field meeting at Southill Park on Sunday, 5th May. The morning was rather cool with a moderate wind blowing. The volume of song was rather poor and sparse, perhaps attributable to the severe winter. Woodcock gave us a reasonable display in "roding" as they flew across the open glade. The only other species of note was Lesser Redpoll, with two or three feeding in some birch trees.

The only other field meeting worthy of note was on the evening of Thursday, 6th June, at Rushmere near Heath and Reach. This area is one of the most beautiful and richest in bird life of all the Greensand belt in

the county. Most of the common woodland species were identified during the evening, including Garden Warbler, Tree Pipit, Common Redstart and Woodcock, the latter giving us an excellent display in "roding" as it flew very close, enabling everyone to hear the two roding notes.

Because Abberton Reservoir was frozen over in February a further visit was made on Sunday, 8th December. Most of the usual species of Duck were observed during the day, including a small flock of female Smew. A flying visit down to Tollesbury was made in the late afternoon thus helping to round off the day; a pair of Short-eared Owls was seen quartering over the marshes.

During the autumn and winter, indoor meetings, of interest mainly to the ornithologist, included a talk in October at Luton, "Round the Observatories", illustrated with cine films on Dungeness and Cape Clear. This was followed at Bedford by the film "Seabird Summer", illustrating the seabird colonies on the Pembrokeshire coast.

Work on the Gull roost at Stewartby Lake has continued and is now beginning to show some very interesting results.

Several members have helped in surveys organised by the British Trust for Ornithology and by the Society. These will be reported in 1965 and new ones started; assistance from interested members will be most welcome.

F. D. HAMILTON.

Annual General Meeting 1964

The 17th Annual General Meeting was held in the Guild House, Harpur Street, Bedford, on Thursday, 12th March, 1964. Mr F. G. R. Soper was in the Chair and 53 members were present.

The minutes of the 16th Annual General Meeting were read and approved. The Report of the Council was then given by Mr K. E. West, Hon. General Secretary. The membership showed a slight decrease, and the attendance at meetings was not wholly satisfactory. Reference was made to the two film shows at Bedford and Luton, and to the success of the Bird Bulletin. The Hon. Secretary concluded with an appeal for greater support for the Journal, punctuality in payment of subscriptions, and action by members to obtain new recruits. The Report was unanimously adopted.

The Hon. Treasurer, Mr J. M. Dymond, gave a most satisfactory report. The Chairman, in thanking Mr Dymond, also stated the indebtedness of the Society to Mr Lucas who had now acted as Hon. Auditor on seventeen occasions.

The Hon. Editor, Mr A. W. Guppy, spoke about the recently-issued Journal for 1962; he considered that it was of poor quality, and appealed urgently for material for the 1963 Journal, for which he had, so far, received nothing. The Chairman reinforced this appeal and thanked the Editor for his work.

The Ornithological Secretary, Mr F. Hamilton, gave a detailed and entertaining account of the Section's work and thanked his colleagues, Mr Wortley, Mr Stephenson and Mr Rodell, for their major contributions. The Chairman congratulated Mr Hamilton and his associates on their work, and the Report was adopted with acclamation.

The Hon. Programme Secretary, Mr L. A. Speed, gave details of some of the excursions planned for the Summer Programme, which met with general approval.

The election of Officers and Council then took place. The Chairman explained that Mr Piercy would again fill the office of President, his term having another year to run. Mr K. E. West did not wish to continue as Secretary and Mr Hamilton had been chosen as his successor in committee, but Mr Speed had later volunteered on the grounds of his long experience of the Society's work, and Mr Hamilton had concurred with this point of view.

The Officers were then unanimously re-elected as follows:

Chairman: Mr F. G. R. Soper.

Hon. General Secretary: Mr L. A. Speed. Hon. Treasurer: Mr J. M. Dymond.

Hon. Editor: Mr A. W. Guppy.

The Council was then elected as follows:

Miss E. Day, Miss E. Fairey, Mrs K. M. Neate, Mr F. Hamilton, Dr D. M. Jeffreys, Mr A. Livett, Mr S. W. Rodell, Mr R. G. O. Stephenson, Mr B. B. West and Mr M. D. Wortley.

The Chairman spoke of the work done by the retiring Secretary and his thanks were fully endorsed by all present. He hoped that Mr West could be later induced to take a place on the Council, but Mr West gave his opinion that older men should relinquish office in favour of younger members.

The President, Mr H. A. S. Key. then gave his address which was delivered in his usual very entertaining and well-informed manner. His theme was a comparison between the county as Steele Elliott must have known it and the county today, and was enjoyed by all. The Chairman gave Mr Key a vote of thanks which was supported by applause from all present.

A Bird's-Nesting Jubilee

BRUCE CAMPBELL

On June 4th, 1903, Jannion Steele-Elliott, the great Bedfordshire naturalist and his friend Ronald Bruce Campbell, my father, spent the day at Southill Park and found nests with eggs of 27 different species of bird, a feat which can have few parallels in British field ornithology.

My father's diary gives no total of occupied nests found; in several cases simply the word "many" appears against a species; but it must have been well over fifty.

On June 5th, 1963, Jannion's nephew, Dennis Elliott, James Ferguson-Lees, like my father a Scoto-Bedfordian, and editor of the national journal British Birds, and I celebrated the diamond jubilee of the 1903 visit, with the kind permission of Mr. Simon Whitbread and every assistance from Mr. S. J. Molloy, his agent and Mr. Norris, the head-keeper.

We know our predecessors left Bedford by the 8 a.m. train but there was no summer time in their day, so our rendezvous at the Sandstone Lodge with Mr. Norris was sun-wise probably earlier than their 9.30 a.m. arrival. There was, however, no sun as we drove round on a preliminary tour, and at 10.15 when we began operations, armed with large scale maps from the estate office, it was still cool and dull. Inevitably we started by exploring the lake, and the boathouse gave our first score, a House Sparrow with 4 eggs on a beam; there were several others to which we did not climb.

As we rowed out, five Teal, two pairs of Tufted Duck and many Mallard flew up, besides the expected Coots, Moorhens and Great Crested Grebes, while Herons lumbered off the tall trees on the island. The heronry was not in existence in 1903, so this gave us one species in hand for a start: we counted eight "good" nests, four in poplars and four in ashes, with young standing up on two and eggshells on the ground below. The island also produced a Mallard with nine eggs and our first Woodpigeon's nest; another Mallard's nest with two shells and three unhatched eggs was only $2\frac{1}{4}$ feet from a hatched off Pheasant's nest with eight shells; we heard the chicks calling and wondered how they would ever be able to reach the mainland.

After the island we made an anti-clockwise circuit of the lake The colony of Reed Warblers was known to Steele-Elliott but no nests were recorded on the 1903 visit: from a general comparison of the two days, it must have been a late season, whereas 1963, in spite of the famous cold spell, had by June become rather an early one. So we tallied eight Reed Warblers with eggs, supported by seven Coots with eggs, a Mute Swan with young, a Moorhen with five eggs and, in the very last patch of reeds, a Great Crested Grebe with two eggs in which we could hear the voung calling. James found a nest of young Sedge Warblers extremely well hidden in a clump of reeds and nettles, but his most surprising discovery was a Bullfinch's nest with three eggs perched in a tussock of sedges, 2 feet above standing water and 9 feet from dry land; it was built of the usual small dead twigs, rootlets and hairs and looked most incongruous.

Our search was amphibious and we were soon in water well over the tops of our gumboots. One non-ornithological find was a hook and float caught in the reeds; we began following the line back under water. "Perhaps the fisherman's on the other end," said Dennis, but we were spared a macabre climax.

Squelching on to dry land again, we surprised our first Turtle Dove and only Whitethroat from their nests in the last few yards back to the boathouse, where we took our lunch interval at 2 p.m. with twelve species on the list and a light drizzle falling.

Lunch also solved the problem of the Swallows in the boathousehouse: we traced them to a very shallow nest on the end of a beam under the eaves facing the lake. Starlings and Blue Tits were feeding young in cavities under the eaves at the back, so our lunch break was not wasted.

By 2.45 p.m. the rain had stopped and from then on the weather steadily improved to give us blue skies and sunshine. We could not, of course, do more than skim the cream of this great park, so we worked towards the house, looking in the most likely places. Dennis flushed a Wren from a small tin shed; it had seven eggs and was the only occupied Wren's nest I saw the whole season. Nests of another Turtle Dove, a Linnet in a holly hedge and our fourth Bullfinch—one bird that evidently had not suffered in the winter—brought us back to the car which we made use of to visit the coverts on the road to Gastlings.

Lured by Nuthatches, whose nest we did not find, we entered an ashwood surrounded by fields. Here were the only Marsh Tits seen all day, a Turtle Dove which fluttered off two small young in a distraction display and the nest which gave me most pleasure of all. Ten feet up in the epicormic shoots of a birch, overgrown with old man's beard, was a structure off which a small bird flew. Using a mirror on a stick, we were able to see a Spotted Flycatcher's nest with five eggs nestling in the hard cup of an old thrush's nest. In 1903 our predecessors found their Redstart's nest also in a thrush's old nest, on the ledge of a barn.

We reported back at the estate office at 5 p.m. and met Mr. Whitbread, who showed us a Pheasant sitting in a flower-bed, and we began a search of the shrubberies near the house. Little ornamental yews gave us nests of Song Thrush, Blackbird and Chaffinch; from the big yews came the needling voice of a Goldcrest, a rarity in 1963, but we could not find its nest. A pair of Willow Warblers, obviously feeding young in a patch of ground elder, gave James a lot of trouble, with midges as an additive, before he watched them back successfully. We found another brood, and a family of Blackcaps just out of the nest, in the covert called Four Acres, before taking car again for a quick look at Keeper's Warren, an area of conifers, bracken and heath quite unlike the park. This had done our predecessors well but we left it too late: we heard both Great Spotted Woodpecker and Redstart but none of the many holes we looked at was occupied, and the chief event from my point of view was my first sight of a wild muntjak, running off in its curiously pig-like way, head down and tail up.

Then, as we regained the car, I felt wildly in the pockets of my anorak: my field note-book with the complete record of our day had fallen out. Light in the pine wood was beginning to fail, but we retraced our steps to where I had stopped after flushing a Dunnock—and there it lay like Abraham's ram, caught in the brambles. This was at 9 p.m., so that we had actually been searching for between 9 and $9\frac{1}{2}$ hours; my father's diary does not tell us when he and Steele-Elliott knocked off, but they could not have gone on very much longer.

Allowing ourselves the Blackcaps, our tally was 60 occupied nests of 26 species. Considering the effect of the previous winter and that none of us knew the area well, whereas Steele-Elliott was certainly familiar with it, we felt we had not done too badly. 15 species were common to both days. Of the 1903 species that we did not find, the absence of Kingfisher can be attributed to the hard winter, while Stonechat and probably Wood Warbler have vanished from Bedfordshire; we saw six of the others and no doubt all nine still nest on the estate. We hope we may be allowed to prove this on a future occasion.

DETAILS OF THE TWO DAYS

(e/4 means a nest with 4 eggs; 4/4 means four nests with 4 eggs; Y indicates young)

Species 1903 1963

Great Crested	Grebe	. e/4	e/2
Heron			8 nests
Mallard		<u> </u>	e/9
Mute Swan		<u> </u>	$\mathbf{8Y}$
Red-legged Par		. e/13	01
Partridge		- /11	
Pheasant	•••	66 N. # 11 * 14 m	TT
Moorhen	•••		Hen sitting
Coot	•••		e/5
Woodpigeon	•••	-, -	2/7, e/6, e/3, 2/1
	•••	-/-	2/2, $e/1 + 1Y$, $2Y$
Turtle Dove	•••		2/2, 2Y
Kingfisher	•••		
Cuckoo	•••	e/1 (host not given)	 1999
Swallow	•••		e/4
Blue Tit		. Programa	Feeding young
Treecreeper		• e/6	
Wren		. c. 20 nests inc. e/7, e/6,	e/7
		2/3	0//
Song Thrush		177(0)	e/1, 2/3Y, 2Y
Blackbird			2/4, also nests with
	•••	. Trot specifica	deserted and broken
Stonechat		. e/3	eggs and dead young
Redstart	•••		·
Robin	•••	5 5 6 5	
Reed Warbler	•••	-/-	
Sedge Warbler	•••		6/4, 2/1
	•••	. e/3	5 Y
Blackcap	•••	e/5	Male feeding young by
C 1 777 11		2.2	nest
Garden Warble	er	2/5	
Whitethroat	•••		e/4 + 1Y
Willow Warble		e/6	7Y, 6Y
Wood Warbler		e/6	
Spotted Flycate	her		e/5
Dunnock	•••	e/5, e/4	
Starling		· · · · · · · · · · · · · · · · · · ·	Feeding young
Greenfinch		" Many "	e/3
Linnet			0/3
Redpoll		A 14 14 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	e/3
Bullfinch			0/5 2/2 -/1
Chaffinch	***	" Many "	e/5, 2/3, e/1
House Sparrow	,		e/4
riouse Spariow	•••	e/5	e/4

No list of birds seen was kept in 1903, but my father noted "two sets of Hawfinches"; our list was 60. In addition to those whose nests we found, we identified:

Teal, Tufted Duck, Black-headed Gull, Lapwing, Stock Dove, Tawny Owl, Green Woodpecker, Great Spotted Woodpecker, Swift, Skylark, House Martin, Sand Martin, Rook, Jackdaw, Magpie, Jay, Nuthatch, Treecreeper, Great Tit, Coal Tit, Marsh Tit, Long-tailed Tit, Mistle Thrush, Redstart, Robin, Garden Warbler, Chiffchaff, Goldcrest, Dunnock, Pied Wagtail, Goldfinch, Yellowhammer, Reed Bunting and Tree Sparrow.

Reports of Recorders

BOTANY

The increase in interest in the plants of the county shown during the past three years has not been maintained. No new discoveries have been reported to me and my own field work in the county has once again been limited to the wool adventive season in the autumn. I would welcome comments, even if trivial ones, on changes in the Bedfordshire flora.

J. G. DONY.

METEOROLOGY

The year 1963 will be long remembered for the extreme cold of the first two months, rather than for any other features of the weather, and few who experienced the rigours of a similar period in 1947 could have expected an even severer winter only sixteen years later. Unfortunately for many, their confidence that it would be similarly followed by a fine warm summer was misplaced, and, furthermore, two of the three public holidays were spoilt by wet weather. The net result was a disappointing year, with less fine weather than usual, though, strangely enough, with less than average rainfall.

January began with snow lying as a result of the blizzard of the penultimate day of the previous year, and this remained unmelted until 5th March, a total of sixty-four days. During this period there were only three nights without frost, and twenty-nine days on which the temperature failed to exceed freezing-point, the severest conditions being experienced during the third week of January. Further snowfalls occurred, notably on 3rd, 4th and 19th January and on 1st, 2nd and 6th February, but amounts were comparatively small, and not comparable with those recorded in some other parts of the country. When, finally, the thaw came, the accumulation of snow was much smaller than in 1947, and its comparatively slow melting did not give rise to spectacular and disastrous floods as in the earlier year.

The remainder of March, April and May was unsettled, the rainfall of the first two months being well above average. Considerably warmer conditions became established on the last two days of May and persisted for a fortnight, the final day, 12th June, being one of the two warmest days of the year, and culminating in a thunderstorm. The remainder of the month of June was cooler and less settled, and this type of weather continued for the first half of July; then followed a warm dry period of seventeen days. With the August holiday, cool unsettled weather was resumed until mid-September; rainfall was particularly heavy on 1st of

RAINFALL FOR 1963

Month	Bedford	Bromham	Cardington	Eversholt	Kempston	Luton A	Luton B	Silsoe
January February March April May June July August September October November December	1·21 0·63 2·52 1·82 1·32 1·97 1·62 2·72 1·91 1·48 3·26 0·30	1·00 0·66 2·22 1·44 1·07 1·79 1·13 2·36 2·53 1·69	0.74 0.40 2.42 1.49 1.32 1.53 1.28 2.61 2.17 1.20 3.62 0.38	1·09 0·55 2·89 2·34 1·24 1·33 1·56 3·06 2·36 1·53 4·47	1·01 0·59 2·60 1·79 1·42 1·91 1·05 2·61 2·36 1·35 3·54	1·11 0·80 3·59 2·54 1·43 1·89 1·80 3·44 2·25 1·75 5·12	0·92 0·52 3·51 2·29 1 36 1·86 1·27 3·25 2·03 1·69 5·21 0·60	0.63 0.21 2.49 1.58 1.18 1.56 1.47 2.56 2.10 1.52 4.20 0.36
Totals	20.76		19·16	22:86	20.54	26:42	24 51	19:86

Bedford (Mr Lock)
Bromham (the writer)
Cardington Aerodrome (per Mr Speed)
Eversholt (Col. Battcock)
Kempston (Mr Payne)

Luton A (Crescent Road) (Mr Meadows) Luton B (Runley Wood) (Mr Meadows) Silsoe (National Institute of Agricultural Engineering, per Mr R. I. Edwards) that month. There were two more fine spells, one of eleven days in mid-September, the other of the last ten days of October, with an unsettled period between.

November was a rather wet month and entirely without its traditional fogs; rain occurred on twenty-three days. On the other hand, December was the driest this century, the first three weeks being dominated by easterly weather, with some light snow. Christmas Eve, in particular, was exceptionally cold, but milder conditions spread in from the Atlantic on Christmas Day and remained for the last week of the year.

Temperatures were exceptionally low during the first nine weeks, the worst days being 22nd and 23rd January with maxima of 27 deg. F. during the day, and night minima of 5 deg. and 6 deg. F. respectively. Wednesday, 23rd January, was, perhaps, the worst day of the winter, and to be out of doors that evening in twenty-six degrees of frost, exposed to the full force of the piercing east wind, was a memorable, if grim, experience! There were only five days in the summer on which 80 deg. F. was exceeded; the two warmest were 12th June and 30th July, both with 84 deg. F.

RAINFALL was everywhere below average by about 10%, mostly accounted for by the low precipitation during the long frost of January and February, and by the unusually dry December. There were no exceptionally long unbroken periods of either dry or wet weather; the fifteen days from 21st February to 8th March made the longest dry spell of the year. The wettest month was November, with nearly four and a half inches of rain, one-half of which fell on only three days.

Snow occurred on no less than eighteen days, but, apart from the initial snowfall of 3rd January (0.39 inch), amounts were small.

THUNDERSTORMS were neither numerous nor severe and were not accompanied by heavy rainfall except on 1st September. They occurred on eight days only, an unusually low figure.

BIRDS

THE ARCTIC WINTER OF 1962-63

Exceptionally severe conditions prevailed from mid-December until early March, with widespread frost and deep snow. All standing water, including Stewartby Lake, was frozen over by 13th January, and the only stretch of the River Ouse to remain entirely free of ice throughout this period was from Goldington to Eaton Socon as a result of the warm water pumped into the river by the two power stations at Goldington and Little Barford. This attracted large numbers of wildfowl, including a flock of about seventy White-fronted Geese on 2nd January, a further flock of about twelve from 13th to 19th, four Red-breasted Merganser during the first week in January, and Goosander in varying numbers throughout the month, reaching a peak of nine on 24th February.

On the 26th and 27th January seven Smew were also recorded on this stretch of the river near Willington, where most of the wildfowl were concentrated. The Whooper Swan was in the Bedford Sewage Farm and Willington areas during January and February, with a maximum of seven seen on the 2nd January, as also was Bewick's Swan, seen from time to time during these months and reaching a maximum of fifteen on the 27th January.

A very marked movement of Fieldfare and Redwing in a southerly direction was observed in the south of the county on the 6th January; large flocks worked their way along hawthorn hedges, stripping them of all their berries as they went, but these had completely disappeared by the 12th to 14th.

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Another victim of the freeze-up was a Bittern, seen at Wyboston Gravel Pits on the 27th January, undoubtedly one of the many birds frozen off their normal East Anglian haunts; emaciated individual birds were reported from a dozen or more counties.

Not surprisingly, the ground-feeding species were hardest hit, there being an almost total absence of Lapwing, Snipe, Redshank, Golden Plover, and Jack Snipe during the first two months. The thaw in early March gradually brought things back to normal, the Lapwing returning in reasonable numbers by the 3rd, followed by the Golden Plover, which increased to a peak of about fifty on the 17th.

DEPARTURE OF WINTER VISITORS

An unusually large flock of about 270 Golden Plover was recorded near Stanford Gravel Pit on the 8th April which increased to a maximum of about six hundred on the 12th, about one-half being of the Northern race, in summer plumage. This flock decreased slowly over the remainder of the month and was last seen on the 22nd. Siskin stayed on right into early May, with small flocks of about twenty at Sharnbrook on the 7th April and at Southill Park on the 12th; two were last recorded here on the 5th May.

The unprecedented number of Brambling recorded at Bedford Sewage Farm in late March decreased to about ten by the 3rd April, only to increase to about fifty on the 10th and to be last seen on the 15th.

A single adult Bewick's Swan, first seen in June, stayed on at Sandy Gravel Pit well into July, the latest date on record for this species.

SPRING MIGRATION

The earlier species were generally rather late, but the later ones were more or less on time. The first summer visitors arrived on the 16th March, with Garganey at Bedford Sewage Farm, coinciding with a general influx over the country. Wheatear was also seen on the same day and again on the 17th together with the first Chiffchaff at Leagrave Marsh. An early date for Ring Ouzel was the 16th March at Pegsdon, roughly a month ahead of the main influx over the country as a whole, which occurred between the 13th and 20th. Sand Martins arrived very late, the first record being for the second week in April. Swallows also arrived during this week and were widespread by the 12th to 14th. Willow Warblers arrived on the 12th by which time the Chiffchaff was widespread. The same day also brought the first reports of House Martin and Blackcap from a number of localities. By mid-April the Common Whitethroat and Sedge Warbler had been reported, but the Swift was not seen until the 27th. mid-May passage of Black Tern was two or three weeks late, with the first birds seen on the 26th May and peaking at Stewartby Lake on the 2nd June. A Hoopoe, first noted on the 2nd June at Stockgrove, near Heath and Reach, was still holding the same territory up to the 7th July.

BREEDING STATUS AND DISTRIBUTION

Four to six pairs of Crossbill are estimated to have summered in the Bunker's Hill area at The Lodge, Sandy, but although birds were observed carrying nesting material, no definite proof of breeding was found.

It is becoming increasingly established that Redpoll are present in small numbers as a breeding species on the Greensand belt, the first positive proof of this coming from the Heath and Reach area where several young were seen on the 16th June.

A new breeding record for the county was established at Wyboston Gravel Pits where a pair of Common Terns brought off three young.

A pair of Black Redstarts was present in Luton during the breeding season, but no proof of breeding was obtained.

AUTUMN PASSAGE OF WADERS

The passage in 1963 has been in the main uneventful. The number of Green Sandpiper at Bedford Sewage Farm built up during July to reach a peak of 25+ on the 4th August; the Common Sandpiper similarly reached a maximum of c. 15 on the 8th. Unusual occurrences were 1-2 Spotted Redshank recorded 8th to 25th August, and a flock of 22 Whimbrel in flight over Bedford Sewage Farm on 7th September. Greenshank and Ruff were recorded in normal numbers.

AUTUMN MIGRATION

Only three Black Terns were seen, two at Wyboston and one at Dunstable Sewage Farm. The first Common/Arctic Tern was noted on the 19th August at Bedford Sewage Farm, followed by single birds on the 14th September, 6th and 13th October in the Bedford area. Nine were also noted on the latter date at Dunstable Sewage Farm.

The passage of Hirundines was heavy at Stewartby Lake on the 8th September, with about five hundred moving south-west, 80% of them Swallows. Further strong movements were observed over Bedford on the 22nd and 28th October. The last Sand Martin was seen on the 13th October; Swallows were, however, present in smaller numbers up to mid-October and were last recorded on the 22nd November.

An exceptionally late date for the Ring Ouzel was the 3rd November when one pair was seen at Bedford Sewage Farm.

There were fewer Wheatear records than last year, with single birds noted between the 5th August and the 13th October.

ARRIVAL OF WINTER VISITORS

The first species to arrive was the Redwing on the 4th October, rather later than usual. Teal were recorded in small numbers on the 12th-13th October, becoming abundant by the 27th. As usual, the Fieldfare arrived later than the Redwing, on the 13th October, and numbers gradually built up during October and early November.

A single early Golden Plover was seen flying north-east at Bedford Sewage Farm on the 8th August, but the species was not widespread until early November. There were single records of Jack Snipe at Bedford Sewage Farm on the 13th and 26th October and these increased slightly in December. Wigeon were reported in small numbers at Stewartby Lake on the 9th and 10th November, but there was a sharp increase on the 28th.

Observers' names are indicated in the text by the following initials:

RB-R. Barker. HC-H. Cole. ACM-A. C. Morriss. GJD—G. J. Dring. JND-J. N. Dymond. FCG-F. C. Gribble. DG-D. Green. SJH-S. J. Haggie. FDH & KCH-F. D. & K. C. Hamilton. BDH-B. D. Harding. DH-D. Hasdell. TAH—T. A. Hasdell. ARJ—A. R. Jenkins.
PGK—P. G. Kitchener.
AJL—A. J. Livett.
WJL—W. J. Lloyd. CJM-C. J. Mead.

OJM-O. J. Marlow. CSP-C. S. Payne. JCR-J. C. Richards. SWR-S. W. Rodell. ANBS-A. N. B. Simpson. PS-P. Smith. RGOS-R. G. O. Stephenson. IRS-I. R. Sisley. CFT-C. F. Tebbutt. KRW-K. R. Weedon. EMW & PJW-E. M. & P. J. Wilkinson.

PJW-P. J. Williams. MJW-M. J. West. MDW-M. D. Wortley.

Localities: SF—Sewage Farm, ChP—Chalk Pit, ClP—Clay Pit, GP—Gravel Pit, SP—Sand it, L—Lake, NR—Nature Reserve.

Numbers refer to B.O.U. Check List.

- 4. RED-THROATED DIVER: One seen on the River Ouse at Bedford SF on 20th January, full identification details being submitted (JND & JCR).
- 5. Great Crested Grebe: The following localities held this species during the breeding season: Southill L (3 pairs and 12 young); Felmersham NR (one pair and two young); Stewartby L (two pairs with young and eggs resp.); Wyboston GP (one pair and one young); Luton Hoo L (two pairs and two young each—an increase on 1962) and Millbrook (success not known). Due to careful and frequent visits it is possible to say that the Grebes arrived at Felmersham NR on 13th March.

In late January an oiled bird was seen on the River Ouse near Bedford SF. Stewartby L was well covered during the autumn and winter, numbers increasing from 22 in mid-September to 35 a month later. This number was still present at the end of the year. (Recorders too numerous to detail.)

- 9. LITTLE GREBE: Up to six on the River Ouse below the Bedford Power Station where the outflow of warm water kept the river from freezing over completely, (BDH & IRS).
- 28. CORMORANT: One on 17th March at Stewartby L, (PGK, ANBS, PJW, et al.).
- 30. Heron: At Southill Park, at least seven definite nests were observed but probably 10-11 pairs altogether, (JND).
- 38. BITTERN: One at Wyboston GP on 27th January, (DH, SJH, PGK & PS).
- 45. Mallard: The severe freeze-up in the early part of the year, when even Stewartby L froze over completely, made itself felt in every water. Numbers in January were quite high, but dropped sharply in February. By early March, numbers were beginning to come back and during this month breeding dispersal began to take place. During January and February, up to 300 ducks were on the clear warm water below Goldington Power Station on the River Ouse. During autumn, numbers at Stewartby were 200 on 6th August, increasing by 500 by mid-September. A slow increase throughout October brought the total to c. 1250 on 3rd November, and this continued to c. 2000 on 28th December. On Southill Park L, the maximum count of 630 occurred on 15th December.
- 46. TEAL: Numbers at Bedford SF were low in January and February, but increased from 65 to 250 by 3rd March. Some two weeks later this dropped away to 100. Wyboston GP, on the other hand, appeared to have more in February than March. No breeding records submitted. As with 1962, numbers were quite low in the autumn at all the main wildfowl counts, the highest count, in October, being 50 at Southill Park L and 70 at the same place a month later.
- 47. Garganey: All records received were for the spring when up to three were seen at Bedford SF between 17th and 30th March, and a pair at Wyboston on 14th April, (PGK & PJW).
- 49. GADWALL: A pair (recorded separately on occasions) were at Bedford SF during January and a male at Southill Park L on 24th February. The only record for the rest of the year was a male at Bedford SF on 2nd November, (JND, SJH, PGK, AJL, PS, KRW & MDW).
- 50. WIGEON: This species appears to have concentrated in the Bedford SF area, probably feeding in the open water below Goldington Power Station. Numbers were below ten in first few days of January but by 26th were in the region of 100. A decrease took place to ten birds, building up again to 50 by end of February. The ducks disappeared quickly in early March, the last being on 10th March. Last birds in the county were three at Stewartby L on 31st March. No records for October, the first being four at Stewartby L on 9th November, increasing to over 100 by 28th December.

- 52. PINTAIL: Numbers during first two months of the year were very small at the usual wildfowl places but early March showed that an influx of this species took place. At Wyboston GP 17 were seen on 10th and on this same day 29 were present at Bedford SF. A week later at Stewartby L 12 were counted. Stewartby L recorded the only Pintail for the autumn, up to three being seen from 20th October to the end of the year, (JND, SJH, BDH, DH, PGK, PJW, IRS & MDW).
- 53. Shoveler: The only January record was of two birds at Bedford SF on 27th, followed a week later by a sighting of a single bird. However, by mid-March, they were reported from Felmersham NR (two pairs); Bedford GP (one pair); Stewartby (three birds) and Wyboston GP (two pairs). On 3rd April, one pair were seen at Stanford GP and ten days later one was at Southill. August saw up to nine birds at Bedford SF, while Southill Park L had up to three from September to December, (JND, SJH, PGK, ACM, PS, PJW & EMW).
- 56. TUFTED DUCK: The following are the summaries from the main wildfowl areas for the first quarter of the year. Wyboston GP averaged 30, peaking at 100 on 27th January; Stewartby L 40 on 5th January, decreasing to one on 13th. Very small numbers until end of February when numbers slowly began to increase, ending on 31st March with 40: Bedford SF area; counts fluctuated greatly, probably due to the ducks moving between the Farm, Barkers Lane GP and the open water at Goldington Power Station. The highest number was 135 on 24th February: Felmersham NR; no counts were submitted for January and February but 21 were seen on 11th March, increasing to 24 the next day, (JND, GJD, BDH, DH, TAH, SJH, PGK, AJL, IRS, PS & MDW).

Definite breeding records recorded from: Stewartby L, three pairs with young, (JND); Southill Park L, all four with four young, (JND); Wyboston GP, one pair with five young, (PS); Barkers Lane GP, three pairs with young, (PGK); Battlesden L, two pairs with young, (BDH); Eversholt L, one pair with four young, (BDH).

During the last three months of the year, Stewartby L increased from 70 in early September to 150 by end of December, while at Southill Park L numbers kept in the region of 30 throughout the period.

57. POCHARD: As might be expected from the severe conditions, numbers were comparatively low during the first four months of the year. Wyboston GP never had more than ten, while Bedford SF had few except on 10th March when c. 15 were counted. Stewartby L started well with 40 on 5th January but the next day only 25 were counted and within a week no birds were present, the lake being completely frozen over. Luton Hoo L had 14 on 28th April.

The breeding season was well covered, with one pair raising four young at Battlesden L, (BDH), and one pair with three young at Southill Park L, (JND), while another two pairs were present, (PS).

During the autumn numbers at Stewartby L increased from a few birds in August to 56 on 15th September. Numbers then fluctuated, reaching a peak of 80 on 22nd December. Southill Park L held eight on 22nd September but a week later 45 were counted. This increased to 110 on 27th October but thereafter 50 to 60 was the order of the day, (JND, GJD, FCG, BDH, TAH, SJH, DH, PGK, AJL, PS, IRS, KRW, EMW & MDW).

60. GOLDENEYE: During first week of January at Bedford SF up to two were seen, (JND, SJH & DH). Three females at Felmersham NR on 10th to 13th March, (GJD, TAH & SJH). Two at Stewartby L on 9th November and a single female at Luton Hoo L on 21st December, (AJL).

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- 69. RED-BREASTED MERGANSER: Four at Bedford SF on 1st and 6th January and one female at Stewarthy L on the latter date. (SJH & PGK).
- 70. GOOSANDER: This species was quite numerous during January and February. At Wyboston GP the maximum was nine on 14th January while at Bedford SF up to five were recorded regularly during the period, with a peak of nine on 24th February. The last date was of two at Bedford SF on 3rd March, (JND, SJH, DH, PGK, AJL, PS & MDW).
- One female on the River Ouse near Bedford SF on 13th January and by 26th and 27th up to six females and one male were recorded. At the same place, one female was seen on 6th February and four on 3rd March, (JND, SJH, AJL, ACM, IRS & MDW). A single female was seen at Houghton Regis on 10th February, (BDH).
- SHELDUCK: Two adult birds at Stanford GP on 14th March. (MDW). Three immatures stayed at Stewartby L from 30th August to 7th September, (JND. PGK & AJL).
- 76. WHITE-FRONTED GOOSE: From 2nd to 19th January, a flock was present in the Bedford SF area. On the first day, 70 were seen but on all subsequent dates only 12 were recorded (SJH, DH, PGK & IRS).
- 82. CANADA GOOSE: Two at Wyboston GP on odd dates between 27th January and 4th April while an odd bird seen on River Ouse near Bedford, (JND, DH, SJH, PGK & PS).
- MUTE SWAN: A total of 105 birds counted between Bedford town centre and Goldington Power Station, (BDH & IRS).
- 85. Whooper Swan: At Bedford SF area the following were seen: seven on 2nd, two on 27th and three on 29th January; one on 9th and 10th February, (JND, BDH, DH, SJH, PGK, IRS & MDW). On 17th December 11 seen in flight near Leighton Buzzard, (PS).
- BEWICK'S SWAN: Bedford SF area: three on 26th January, 15 the following date and single birds on 6th and 10th February. Wyboston GP: Fluctuating from one to ten between 14th January to 17th February. On River Ivel at Sandy, five turned up on 6th February, which decreased to two by 23rd of that month. These stayed in the area until 7th April. One was found at Sandy GP in June and may have been there earlier. It was still present during July, (JND, DH, FDH, KCH, SJH, PGK, ACM, IRS, PS, EMW & PJW). The only record for the autumn was three at Southill Park L on 15th December and probably the same birds five days later at Stewartby L, (EMW & PJW).
- Single bird seen frequently Kimbolton Woods area 9th 91. Buzzard:
- October to end of year, (CFT).

 93. Sparrow Hawk: Noted twice at Kimbolton Woods and at Thorn, (BDH & CFT).
- No breeding pairs reported, but seen at Sandy, Heath 110. KESTREL: and Reach and Bedford SF, (FDH, FCG, PGK & IRS). All records of this species, even of individual birds, should be submitted.
- 120. WATER RAIL: Surprisingly, reported from only two localities during the severe weather. One bird by the River Ivel at Sandy stayed at an open patch of water for nearly three weeks in January, while there were two at Wyboston at the same time, (FDH, KCH & SJH). One noted several times on Duloe Brook, near Bushmead Priory, (CFT).
- MOORHEN: At least two birds with a "necklace" of icicles on their breasts and with their tail coverts encrusted with ice, at an open section of the River Ivel at Sandy. The icicles got larger each day and one bird was found frozen to death, caught in the ice, (KCH & FDH).

- 127. Coot: Both Stewartby L and Southill Park L rarely exceeded 30 during the first four months of the year and while Wyboston GP had 120 on 26th January, these numbers were not sustained. At Bedford SF counts fluctuated wildly, even on the same day, but by different observers. The maximum appeared to be c. 250 on 10th January, while the next "peak" was 180 on 9th February. By 6th April only 26 were present. During the last three months of the year, the maximum count was 90 at Stewartby L on 3rd November.
- 133. LAPWING: Numbers abnormally small during the severe weather in the first quarter of the year, the first large flock was seen on 3rd March, when 50 were at Bedford SF, (SJH). Flocks of 500 reported from Wyboston GP (31st August), Stewartby L (15th September) and Bedford SF, (1st December), (JND, PGK & PS).
 - 134. RINGED PLOVER: This species was not seen during the spring; the first ones for the autumn were reported at Kempston SF in the first fortnight of July, when up to four were watched, (CSP). Single birds seen regularly at Bedford SF between 5th and 24th August. A late record of one at Stewartby L on 3rd November.
 - 135. LITTLE RINGED PLOVER: First record was one at Stanford GP on 30th March. Present during the breeding season at Wyboston GP (15 birds with at least three young), Sandy GP (one pair), Stanford GP (one pair with nest) and Harrold GP (one pair with nest), (JND, FDH, PGK, AJL, ACM, PS, MDW & MJW).

During August, numbers were in the region of three at Bedford SF, about 10 to 15 at Wyboston GP and two or three at Stanford GP. Last record was one at Wyboston GP on 15th September, (JND, FCG, PGK, AJL & PS).

- 140. GOLDEN PLOVER: The only record during the severe weather was of 12 on 6th January, near Old Warden. The area round Stanford GP proved attractive to this species, and on 8th April at least 270 were counted. Some four days later c. 650 were observed, of which about half were of the northern race. Numbers decreased rapidly, and by 21st 118 were present but only 11 the next day. All were gone by 25th April, (JND, DH, SJH, ACM & IRS). The first bird of the autumn was over Bedford SF on 8th August, (PGK). Numbers during November and December were low, though 78 were present near Wootton on 9th November and the maximum count of the winter was 100 at Stewartby L on 1st December, (JND & PS).
- 147. JACK SNIPE: Four at Bedford SF, on 10th March, while on 23rd and 30th of that month single birds were seen at Wyboston GP, (IRS & PS). Present at Bedford SF from 13th October to end of year, maximum being three, (JND, PGK, PJW & EMW).
- 148. WOODCOCK: Present during the breeding season at Southill Park, Kimbolton Woods, Heath and Reach (two pairs) and Sandy Lodge, (JND, AJL, PS, CFT & MDW).
- 149. Curlew: Two at Stewartby L on 13th January and one over Bedford SF on 27th of that month. At the same place two were seen on 24th March, (JND, SJH, PGK). During August, eight were at Wyboston GP on 5th, two at Dunstable SF on 26th, two on Bedford SF the next day, (JND, PGK & SWR).
- 151. WHIMBREL: The only record is of 22 flying over Bedford SF on 7th September, (JND).
- 154: BLACK-TAILED GODWIT: Between 3rd and 5th September two juveniles at Kempston SF, (CSP).

- 156. Green Sandpiper: Bedford SF: the only record of the spring was of one on 15th April. From 30th June numbers slowly increased, reaching a peak of 13 on 26th July. Through August, ten were commonly seen, the maximum being 25 on the 4th. Single birds seen occasionally in October and November. Dunstable SF also had occasional birds, once three, during August, (JND, FCG, BDH, PGK, AJL & PS).
- 157. WOOD SANDPIPER: Bedford SF: first birds recorded on 28th July when a single bird was seen. During August, two were frequently seen, while on 26th three were counted. Last seen on 6th September. At Wyboston GP a single bird was seen on 2nd September.
- 159. COMMON SANDPIPER: At least one at Bedford SF on the unusual date of 20th January, (PGK). The spring passage covered 12th April to 1st June, maximum being three birds.

Good coverage of Bedford SF in the autumn showed that movement began on 21st July, building up to seven within a week. These numbers remained steady until 6th August when c. 12 were counted, increasing to 15 within two days. Numbers then dropped slowly, and by beginning of September, only about three were present, these being gone by 15th. Single birds later seen on 27th October and 3rd November. Wyboston GP also had a passage of this species, the peak of c. 10 birds occurred later than Bedford SF, namely 2nd September.

161. REDSHANK: As might be expected Bedford SF produced most of the records, the main passage being in March and April, the maximum being seven on 12th March. Also recorded at Stanford GP, Stewartby L, Dunstable SF, Felmersham NR and Southill Park L. The only record of breeding was of a pair at Bedford SF which reared four young.

The autumn passage of Bedford SF covered only 7th July to 5th August, mainly single birds, one occurring on 10th and 30th November. One was also noted on 27th August at Stewartby L, (JND, GJD, SJH, PGK, AJL, ACM, IRS & PS).

- 162. SPOTTED REDSHANK: Occurred at Bedford SF on several days between 8th and 29th August, the maximum being two. One also seen at Wyboston GP on 25th August, (JND, PGK, AJL & PS).
- 165. GREENSHANK: The only spring records were of single birds at Stanford GP on 28th April and Stewartby L on 1st June, (JND). From 20th July to 7th September, usually between three to four present at Bedford SF, the maximum being six on 26th August. Wyboston also had its share, though numbers were generally smaller and the period shorter, being seen up to 22nd September, (JND, FCG, BDH, PGK, AJL, PS & MDW).
- 178. DUNLIN: One at Bedford SF on 3rd March, (IRS). One at Stanford GP on 10th and 22nd April, (ACM). Two at Stewartby L on 1st June, (IND). One at Bedford SF between 4th and 6th August, (JND, PGK & PS). One at Stewartby L on 19th October, (AJL). A late record of two at Bedford SF on 17th December, (PGK).
- 184. Ruff: Like many other wader species, numbers were seen less frequently compared with 1962. All but two records came from Bedford SF, where the period covered extended from 1st August to 15th September, the maximum being 11 on 19th-25th August. The other records concern five birds at Kempston SF on 22nd June and one at Wyboston GP on 25th August, (JND, FCG, PGK, AJL, CSP & PS).
- 185. AVOCET: A single bird identified at Harrold GP on 30th May. It showed little concern for nearby workmen, feeding on the mud and in shallow water about 20 vards from the workings. This is the first county record for this species, (MJW via I. J. Ferguson-Lees).

Gull Movement: Owing to the very severe winter in the period of January-March the distribution of Gulls was very much affected. The Gull roost at Stewartby L decreased to 8,000 on the 27th January, as against the normal 11,000. On this date the final formation of the roost took place under the leeward side of the N.E. bank. By the 24th February, however, the roost had diminished to c. 150, nearly all of which were Black-headed Gulls, as a direct result of the prolonged freeze-up. A possible explanation for this was that the birds were forced out of the area in order to find more favourable feeding-grounds. This theory is supported by reports of a distinct increase in the Luton and Houghton Regis area in February of Gulls moving north in the early morning and returning in the late afternoon.

The only other accurate count to be made during the year was on 1st December. This showed that c. 2,450 large (Greater, Lesser and Herring) and 8,943 small (Common and Black-headed) were present making a total of 11,393 which is normal for December.

- 198. Greater Black-backed Gull: Far fewer records than in recent years. Single birds only seen Stewartby L on three occasions, and one near Bedford SF, (JND, AJL, PJW & EMW).
- 199. Lesser Black-backed Gull: A gradual build-up in numbers in the Luton area during August and early September, declining steadily after this date. This southerly movement in the south of the county followed very much the same pattern as last year.
- 201. COMMON GULL: No movement of this species reported that are worthy of note.
- 208. BLACK-HEADED GULL: Owing to better coverage of both known and likely breeding localities of this species this year, it is possible to assess fairly accurately the overall breeding status of this bird in the county. Completely absent as a breeding bird at Brogborough CIP, and at Lidlington CIP, and it would also appear that no evidence of nesting was found at Coronation CIP and at Chimney Corner CIP on the 28th April.

The colony at Millbrook CIP had an estimated population of c. 80 sitting birds and c. 22 nest sites on the 28th April, making a total of c. 102 nest sites, with an overall population of c. 280 birds present in the breeding area. A further count was made on the 25th May with c. 110 nests and a maximum of c. 280 birds at the colony.

- 212. BLACK TERN: Southill L, four on 26th May; Stewartby L, four on 1st June, six the next day and three on 5th; Stanford GP, one on 3rd and 11th June; Dunstable SF, one on 3rd June, (HC, JND, DG, DH, PS & MDW). Only recorded twice in the autumn, namely two on 2nd September at Wyboston GP, and one a week later at Dunstable SF, (JND, BDH, PGK & PS).
- 217. COMMON TERN: One pair nested at Wyboston GP and reared three young. This is the first breeding record for the county (many observers). This species also seen on passage at Stewartby L (one on 1st June) and Bedford SF (four on 1st June), (JND & FCG).
- 218. ARCTIC TERN: Single bird identified at Dunstable SF on 21st July in ideal conditions, (AJL).
- 232. STOCK DOVE: This species appears to be decreasing in the county and it is interesting to include a record of between 30-40 at Wyboston GP on 16th September, (PGK).
- 234. Wood Pigeon: Hard weather movements of this species were observed flying E. over Bedford on 8th January from 0830-1100 hrs. totalling to about 6,000, (DH). This bird was extremely hard hit by the freeze-up and devastated all the brussels fields around the Shefford and Biggleswade area in order to keep alive.

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235. TURTLE DOVE: First noted on 10th May at Dunstable SF, (BDH), and last recorded in the county on 21st September at Flitwick Moor, (RGOS).

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- COLLARED DOVE: One at Sandy on 31st January (full details supplied), (KCH), and a second bird at The Lodge, Sandy, on 10th, (FDH, PJW, et al.). These are the only records of this species since the first was noted in the county in 1961.
- 237. CUCKOO: First heard on 21st April at Putnoe Woods, (JND), and last recorded at Dunstable SF and Bedford SF on 15th September, (JND & BDH).
- 248. LONG-EARED OWL: Pair seen during the spring and summer at Colesden Wood, (CFT).
- 249. Short-eared Owl: The only record for 1963 was of one flying over Mill Road Allotments on 12th April, (DH).
- 252. NIGHTJAR: Four birds at Rowney Warren and two pairs at The Lodge, Sandy, (FDH, DH & PGK).
- 255. SWIFT: First record was of four at Bedford SF on 27th April, (PGK), with only small numbers up to beginning of May. Last recorded at Bedford SF on 11th September, (PJW).
- 258. KINGFISHER: One at the Cressbeds at East Hyde on 6th January, (AJL). One pair bred successfully on the Great Ouse near Willington, (DH).
- 261. HOOPOE: One in Stockgrove area between 2nd June to 7th July, (PGK, CJM, RGOS, PJW & EMW).
- 264. LESSER SPOTTED WOODPECKER: Single pair seen at Southill Park, The Lodge, Sandy, and Maulden Wood.
- 274. SWALLOW: First seen on 9th April with two at Felmersham GP, (PGK), followed by another two at Mill Farm on the 11th. The next day there was a widespread movement with up to 30 recorded at Wyboston GP, Southill Park and Dunstable SF. By the 15th of the month, this species was widespread. Last recorded on 22nd November over Bedford, (JND).
- 276. HOUSE MARTIN: First recorded on 12th April in small numbers at Wyboston GP, Southill Park and Felmersham NR. These arrivals link with the first main movement of the previous species, (JND, DH & OJM). Last recorded on 27th October in Bedford, (PGK).
- 277. SAND MARTIN: First recorded on 9th April at Felmersham GP and over Ivel River at Sandy, (FDH & PGK). Small movement on the 12th April, and by mid-April the species was seen throughout the county. Last bird at Stewartby L on 13th October, (IND). No breeding records received and members of the B.N.H.S. are asked to report any colonies where this species is nesting.
- 280. CARRION CROW: On 6th April and 19th March, up to c. 40 noted in a flock at Bedford SF—large numbers for spring, (PGK).
- 284. MAGPIE: CFT reports that in the area of the county near St. Neots, this species has disappeared, though he saw one at Little Barford in December.
- 293. WILLOW TIT: During first quarter up to three birds seen in Southill Park while pairs were seen at Thorn, nr. Dunstable, and Flitwick Moor, (JND, AJL & EMW).
- 294. LONG-TAILED TIT: General opinion of most observers that this species survived the severe winter successfully and flocks were reported from many areas.

- 296. NUTHATCH: Reported as common throughout the county. A report from Colworth Woods, however, states that one was seen for the first time on 8th January, (TAH).
- 298. TREE CREEPER: Unlike the Long-tailed Tit, observers did not comment on the scarcity or otherwise of this species. At least two pairs at The Lodge, Sandy, (FDH).
- 299. Wren: Unfortunately few members sent in comments on the status, though it was gathered from discussions that this species was drastically reduced. Round Sandy (not The Lodge), however, numbers were only slightly down, (FDH).
- 302. FIELDFARE: Only small flocks reported in early months of the year, the last one being at The Lodge, Sandy, on 12th April, (PGK). Returning birds reported on the rather early date of 29th September at Houghton Regis. Numbers during October at Bedford SF reached a peak of 300 on 17th but round Dunstable SF they were quite scarce. On 19th December c. 500 were seen at Kempston and c. 300 at Turvey, (BDH, PGK & PS).
- 307. RING OUZEL: This species is seldom seen on spring passage in Bedfordshire. A single male, however, was noted near Pegsdon on the 16th March, (Mrs J. Silverwood via ARJ). A pair watched at Bedford SF on the very late date of 3rd November. Full details have been submitted, (JND).
- 311. WHEATEAR: First arrival was seen on 16th March at Wyboston GP followed by another at Bedford SF. During April small numbers, max. six, were seen at over eleven localities in the county. On 1st and 2nd June a female was watched at Cutenhoe Allotments. Numbers during the autumn were down compared with 1962, the last one being on 13th October at Stewartby L, (HC, JND, DH, PGK & PJW).
- 317. STONECHAT: Only one record received, at Stewartby L on 6th January, (PGK). This is a big decrease compared with previous years and is probably due to the effect of the hard weather early in the year.
- 318. WHINCHAT: First arrival was a male at Mill Farm on 19th April. A pair bred at Bedford SF and at least five young were reared, while at Dunstable Downs at least three pairs nested, rearing ten juveniles. The Warden Hills, Luton, were searched several times, but no pairs were located. Last bird seen on 10th September at Biddenham, (JND, BDH, DH, AJL, PS & PJW).
- 320. REDSTART: First arrival was a female at Mill Farm, Bedford, on 17th April. Pairs probably bred at Southill, Warden Warren, Sandy Lodge, Heath and Reach (five to six pairs), Stockgrove, Luton (two pairs) and 4+ pairs in roughly half a mile of the Shire oak area of woodland. No breeding birds noted at Kimbolton Woods, where normally one to two pairs nest, (JND, DH, FDH, AJL, RGOS, CFT & MDW).
- 321. BLACK REDSTART: Male and female seen at Luton between 21st June and 13th August but no proof of breeding, (HC).
- 322. NIGHTINGALE: First record was one singing at Southill Park on 28th April. Birds noted at Clophill, Whipsnade Common, Hanger Wood, Stagsden, and at least two pairs at Sandy Lodge, (JND, BDH, FDH & ACM).
- 327. Grasshopper Wabler: No records received for 1963.
- 333. REED WARBLER: At least three singing at Barkers Lane GP on 12th May while a few days earlier one was heard at Southill Park. One singing at Sandy GP and was present throughout the season. Two seen at Heath and Reach on 8th September and one at Felmersham GP a week later, (JND, FDH, PGK & IRS).

- 337. SEDGE WARBLER: First recorded on 14th April at Felmersham NR. No records of breeding but probably did so at most of the suitable localities in the county. Last record was at Dunstable SF on 22nd September, (JND & BDH).
- 343. BLACKCAP: First recorded at Southill Park on 12th April. Probably there at this Park, and at Thorn, as well as on the Greensand Ridge at Dunstable and Sandy. Last seen at Felmersham NR on 15th September, (JND, DH, BDH, FDH & PGK).
- 346. GARDEN WARBLER: First recorded at Putnoe Woods on 27th April. Probably bred at Southill Park, Rushmere Pond, Maulden Wood and The Lodge, Sandy, (JND, BDH, FDH, PGK, AJL & MDW).
- 347. WHITETHROAT: First record was of two at Putnoe Woods on 21st April. Seen on several occasions during September throughout the county, the last being on 30th of that month at Clapham Golf Course, (JND & PGK).
 - 348. Lesser Whitethroat: Singing males recorded from eleven sites in the county, the first on 27th April. During September birds recorded at Felmersham and Biddenham, the last being on 25th, (JND, BDH, FDH, EMW & PJW).
 - 354. WILLOW WARBLER: The 12th April saw birds appearing at Southill Park, Sandy and Thorn. (JND, BDH & PGK).
 - 356. CHIFFCHAFF: While March birds are usually regarded with suspicion as having wintered in this country, it seems unlikely that any survived the severe winter of 1962/63. The first record is one on 17th March at Leagrave Marsh, followed by another at Southill Park on the 23rd. Thereafter the records were more frequent, (AJL & RGOS).
 - 357. Wood Warbler: The only record received for 1963 was of a bird singing in Southill Park on 26th May, (DH).
 - 364. GOLDCREST: Breeding numbers reduced considerably at Sandy Lodge by the severe winter, (FDH).
 - 366. SPOTTED FLYCATCHER: Because of the lack of records, dates of arrival and departure cannot be detailed.
 - 376. TREE PIPIT: First recorded at Sandy Lodge on 12th April. Reported on breeding grounds at Heath and Reach, Sandy Lodge and Rowney Warren, (FDH, PGK, RGOS & MDW).
 - 380b. WHITE WAGTAIL: At least three on 6th April at Bedford SF, followed by one the next day. Also on the 7th one at Colworth. Single birds later recorded at Wyboston GP and Bedford SF. The only autumn record was one at Wyboston GP on 16th September, (JND, DH, PGK, EMW & PJW).
 - 381. GREY WAGTAIL: Few records received; all of these refer to Bedford SF. One seen on three occasions in January and once in August, (JND).
 - 382a. YELLOW WAGTAIL: First recorded on 10th April at Bedford SF. From then onwards records slowly increase. Breeding recorded as follows: Dunstable SF (3 pairs); Stanford GP (1 pair) and Bedford SF (6-7 pairs), (BDH, AJL, ACM & PGK). A movement of 200 seen flying S.W. at 50-100 ft. at Double Arches Quarry, Heath and Reach, on 1st September, (IRS).
 - 388. RED-BACKED SHRIKE: The rather cheering news given in the 1962 report cannot be continued for 1963—rather the reverse. No birds were reported, though a thorough search was made at three of its traditional areas. (AJL).

- 391. HAWFINCH: Up to two at Southill Park between 29th January and 31st March, (JND).
- 394. SISKIN: Continuing from the end of 1962, numbers of this species were frequent. The following are the areas from which birds were recorded, with the maximum counts in brackets: Sandy Lodge (25); Luton Hoo Park (10); Southill Park (20); Sharnbrook (20); Bedford SF (100); Millbrook (20); Rowney Warren (30); Maulden Wood (3) and Stockgrove (12). The latest spring date was of two at Southill Park on 5th May. Only other record for the rest of the year was of one bird at Luton Hoo Park on 21st December (observers too numerous to detail).
- 397. REDPOLL: During January-March, between one to five recorded at Bedford SF, Luton Hoo Park and Sandy Lodge and on all but one visit to Southill Park. On this one occasion 50 were seen. It is probable that this species nested at Southill Park, Rowney Warren and Heath and Reach. During the latter part of 1963 up to 80 seen at Southill Park and c. 13 at Shire Wood, (JND, PGK, MDW, et al.).
- 404. CROSSBILL: Most of the records were centred round The Lodge, Sandy, where four to five pairs summered. Birds carrying nest material were seen by several observers, but no definite proof of breeding was established. Up to ten were at Rowney Warren, while they were also seen at Southill Park, Kimbolton Woods, Aspley Guise and near Bushmead, (JND, FDH, PGK, AJL, WJL, CFT & MDW).
- 408. Brambling: During first part of the year many records were from Bedford SF, when numbers increased from eight in early January to a maximum of 50 on 31st March. This number was also seen ten days later, when many birds were coming into breeding plumage. By 15th April, only two were left. At Wyboston GP numbers were as high as 25+, but by 24th February they were absent. Also seen at Leagrave Marsh (up to ten) and Sandy Lodge (up to three), (JND, BDH, DH, FDH, SJH, PGK, IRS, RGOS & MDW).
- 409. YELLOW HAMMER: Up to 100 at Blue Water ChP on 10th February and c. 120 at Dunstable SF six days later, (BDH).
- 410. CORN BUNTING: Rather large flock of 20 on 15th April at Stewartby, (MDW).

F. D. HAMILTON.

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BEDFORD SCHOOL NATURAL HISTORY SOCIETY

The activities of this Society during 1963 are summarised in the Annual Report, a well-produced publication of 24 pages, which gives details of their indoor and outdoor meetings and contains a number of reports by various Recorders. Through the kindness of the Society, one of these is reprinted below:

MOTH REPORT

By P. G. KITCHENER

Although the trap was run early in March, the first moths were not caught until the 29th. The majority of species were flying at least two weeks later this year than is usual, and were also in far lower numbers than usual up to the end of May. The only species that were recorded flying at the usual time and in usual numbers up to the end of May were Hebrew Character, Common Quaker, Clouded Drab and Powdered Quaker. It is interesting to note that not only are these species in the same family (Agrotidae), but also belong to the same genus (Orthosia). The very cold winter of 1962/63 certainly seemed to force many species to fly later in the year than usual, but although many species were in lower numbers at the beginning of the year, the over-all effect did not seem to be very great.

It was not until the beginning of April that double figures were reached, and triple figures were not reached until the 9th June. Of the more interesting species caught during this period were Dark Sword-Grass, Oak Beauty, Northern Drab, Chamomile Shark, Swallow Prominent and Lesser Swallow Prominent. During June numbers were back to normal after the 9th. Hawk-moths were recorded far less frequently than in previous years. Other than one Poplar, one Elephant, two Eyed and three Lime Hawks on the 9th June there were very few others recorded. Only ten Lime Hawks were caught during the year, and the Privet Hawk, usually a common species, was recorded only once.

The dominant species throughout the year followed the usual pattern, with Heart-and-Dart dominant throughout June, peaking at 198 on the 25th. This gave way to Dark Arches at the end of July, followed by Setaceous Hebrew Character in September and Silver Y at the end of October.

Towards the end of September a total of nearly twenty Brown-spot Pinion was recorded, considerably more than in most years. Other interesting species recorded between the end of September and the beginning of November included five White Spot, three Broad-bordered Yellow Underwing, Pink-barred and Dusky Lemon Sallows, Feathered Thorn, Pearly Underwing and another Lesser Swallow Prominent.

A considerable amount of work has been done by the Secretary concerning the effect of various physical conditions on the number of moths caught during any one night. The results have been remarkably similar to those obtained by P. J. Reay in 1961, (Journal No. 16, p. 31 et seq.). Other work done includes marking various species in an attempt to establish the distance that moths will travel at night when attracted by a bright light, such as the mercury vapour bulb used in the moth-trap. A detailed survey is also being conducted to try to establish the effects of the hard winter of 1962/63.

OBSERVATIONS ON A PAIR OF BLUE TITS BREEDING IN BEDFORD—1962

THE NEST-BOX AND VISITS PRIOR TO NESTING

The nest-box was set up in June 1961 and fixed at a height of about nine feet on a pear tree. The first visit to the nest-box was noted on the 13th January, 1962, with more regular visits after the 5th February and a distinct increase after the 10th March.

On the 13th January, what were thought to be two rival males visited the nest-box. On eight occasions one bird attempted to enter the nest-box, but was unwilling to enter on each occasion because of the presence of the other bird, which was chased away every time. The "unwanted" bird finally disappeared, leaving the other bird to enter the nest-box, which it did for about two to three minutes.

During subsequent visits there was usually a pair of tits, and the "unwanted" bird was not seen again. There was usually a strict routine employed during the visits: one bird would enter the nest-box while the other stayed at the entrance-hole merely peering in, occasionally looking round outside. As time went on, the actual time spent in the nest-box during each visit became shorter; thus the average time in the nest-box on the 4th March was 50 seconds per visit, while by the 17th March it was about 30 seconds per visit. The number of visits, of course, increased as the breeding season approached.

NEST-BUILDING

Nest-building was first observed on the 24th April when it was estimated that the nest was about 1/25 built. By the 3rd May it was estimated to be about 1/3 built, consisting mainly of moss, though there was also a good proportion of strips of bark which were taken from a near-by flowering Crab Apple tree. The nest was thought to be complete about the 6th or 7th May and took 12 to 14 days to build. Building started rather slowly but the rate increased as the nest was nearing completion. Consequently, although it took 9-10 days to build the first half of the nest it only took 3-4 days to complete the second half.

The majority of the nest-building was done in the morning and it was thought that the male and female took equal parts, but as neither of the birds were ringed it was difficult to be sure. At first the nest was built up well at the front, with little material at the back and none on the base. Gradually the material was built up on the base and at the same time it was formed into a cup shape. There were very few feathers lining the nest.

EGG-LAYING AND INCUBATION

The eggs were laid daily, starting on the 10th May, the last one being laid on the 19th May. They were laid in the morning, probably between 0800 and 1000 hours BST. Of the ten eggs that were laid all were 15-16 mm. long with a width of 12-13 mm., except for one egg which measured 13×17 mm.

Incubation did not start until the clutch was complete and in the meantime the eggs were covered with nesting material. This could have been to keep the eggs warm, or possibly to deceive predators.

The female alone was thought to incubate the eggs, during which time the male fed her. On numerous occasions the male (called this for convenience) was seen dashing backwards and forwards to the incubating female. On the 27th May the nest-box was watched for 155 minutes during the late afternoon. For 40 minutes of this period it was raining

heavily and there was no activity. During the remaining 115 minutes the male brought food to the female 17 times. The average duration between each visit was 7 minutes, the shortest 15 seconds and the longest duration 19 minutes. Although the male feeds the female during incubation it is likely that she also obtains food for herself as she was often observed to leave the nest for periods of about half an hour, particularly in the evening. These breaks in incubation may have been merely to allow the female to have a "stretch". The food was never specifically identified, though fat or bread were thought to have been fed to the female several times. On entering the nest-box to feed the female, the male never flew straight in, but either used a perch to the right of the nest-box or one immediately in front of it. Usually the male uttered a "twee-twee" call or did not call at all before entering the nest-box. Occasionally he uttered the "excited" call (see "Calls of Adults").

The female was thought to roost in the nest-box during the incubation period as she was often known to be present late in the evening after all song had died down.

NESTLINGS

The young had hatched by the 4th June at 0815 but there were only nine present. Two methods of feeding were observed; first the male and female independently fed the young, and secondly the male gave the food to the female who in turn gave it to the young. By the 8th June the eyes were open, and the wings were moderately well developed with the ten primaries clearly visible. On the 12th the length of the carpal to the tip of the longest primary was measured and found to be 13 mm., but when remeasured on the 14th the length had increased to 28 mm. On this date the 12 rectrices were clearly visible, besides the primaries, secondaries, greater and lesser coverts.

On the 17th June it was noticed that the adults were no longer entering the nest-box to feed the young but passing the food to them through the entrance hole. By the 19th the gapes were still very large and yellow. The general appearance was nearer to that of a Willow Warbler rather than a Blue Tit. On the 21st one young bird was noted to have its head and "shoulders" outside the nesting-hole and between 0800 and 1300 hours on the 22nd the young left the nest.

The adults were watched several times while feeding the young. It was calculated that each young bird was fed three times and faecal sacs removed once every hour. Only on two occasions was the food identified and on both occasions it was seen to be a sultana from a piece of cake on a near-by bird table.

CALLS OF THE ADULTS

Only four main types of call were distinguished. The first was a long churring alarm note used most frequently when the adults were concerned about the young.

The second call was really a number of variations on the song—"si-si-trrrrrrr"—and was used in a great variety of circumstances and did not have any particular significance.

The "twee-twee" call was only heard when the male was about to enter the nest-box to feed the female during incubation.

The final call was termed the "excited" call. It was used on occasions when the male feeds the female prior to incubation when the female shivers wings and tail. It was also used occasionally during the incubation period. It was a very high musical chattering.

NOTES AND OBSERVATIONS

STRANGE BEHAVIOUR OF A COCK REED BUNTING

By the side of the river at Kempston, in a small area of weeds with dead flower stalks about two feet high, my attention was drawn to a cock reed bunting flitting rapidly from one weed top to another. I then noticed that a weasel was chasing the bird and sometimes jumping at it if the bird was slow to make its next move. As the date was 15th February I could not see how it could be an instance of injury-feigning and thought that the bunting must be hurt in some way that would prevent it flying away entirely; instead, when the weasel came near or jumped at it, it just flew to another weed top not more than five or six feet away. This was repeated at least a dozen times and in various directions, with the weasel persistently following at full speed and without pause and never approaching by stealth as would a cat. I then felt convinced that the bird must really be ill and unable to fly more than a yard or two and I expected to see it caught eventually, but, suddenly, it flew to its mate, which I had not previously noticed, about twenty yards away. Within a minute of its settling the pair flew off together to the other side of the river. Now that it could be seen that the bird was in no way distressed, there seemed to be no logical reason for its behaviour and I could only conclude that this was a case of unnecessary out-of-season distraction behaviour. My ability to see everything so clearly was due to my standing on the Causeway at a higher level.

C. S. PAYNE.

An Encounter with a Fox

I was out with my Shetland sheep-dog early one morning in late June along the east side of Putnoe Wood when there was suddenly tremendous squawking and a cock pheasant burst through the hedge only a few yards in front of us and flew off in great haste. We stopped involuntarily, and, at the same moment, a full-grown vixen sprang out into the lane from the same spot in the hedge that the pheasant had come from; it had obviously been stalking the bird. When it jumped into the lane it was facing slightly away from us, the wind was blowing towards us, and it was clear that the fox was quite unaware of our presence. It stood dejectedly for an appreciable time as if turning over in its mind what to do next. Meanwhile, I was becoming a little anxious about my dog and very quietly called it. However, the fox heard, leapt round to face me and was gone back into the hedge in a flash.

J. N. DYMOND.

COMMON TERNS BREEDING IN BEDFORDSHIRE

On 21st June, 1963, I found two Common Terns, Sterna hirundo, at Wyboston gravel pits. They frequently settled on one or other of two small islands of gravel out in the middle of the water. When I approached as near as possible (about thirty yards away), they flew towards me calling continually. They were still present on 11th and 25th August. On 1st September, three young Common Terns were noted with the adults by P. Smith, with whom P. G. Kitchener and I visited the pit on the following day. The young could just fly from one island to the next, but they still had a large amount of brown colouring on the wings and back.

The family was last seen on 8th September when the young were flying quite strongly. This is the first breeding record of Common Terns in Bedfordshire.

J. N. DYMOND.

UNUSUAL CHAFFINCH'S NEST

In early May, 1963, by the side of a public footpath on the outskirts of Sandy, we noticed a nest in a low thick patch of brambles. The nest, with four eggs, belonged to a chaffinch, but instead of the normal lichen on the outside of the nest, it was completely decorated with sawdust chips. With the light-coloured woodchips, the nest was very conspicuous and stood out amongst the dark bark like a snowball. We felt it was extremely unlikely it would survive, especially as the path was used by schoolboys on their way to the local school. However, we are glad to say that the four eggs hatched and the young fledged successfully.

K. C. & F. D. HAMILTON.

Unusual Behaviour of a Kestrel

On 10th March, 1963, I watched two kestrels hovering for long periods in the rising air from the cooling towers at Goldington Power Station. Over three or four occasions one of the birds appeared to dive well into the cooling tower and did not re-appear until about fifteen seconds later.

P. G. KITCHENER.

PHEASANT LANDING ON WATER

On 24th March, 1963, at Stewartby, a pheasant was watched flying over the lake. When about thirty yards from the bank, the bird was seen to land on the water and, as it did not rise again, presumably drown. It is possible that the bird had become used to landing on ice on the lake during the severe weather.

P. G. KITCHENER.

EXCEPTIONAL TAMENESS OF RABBIT

On the 28th August, 1963, while doing cross-country training at the edge of Clapham Golf Course, I passed three rabbits, two of which quickly disappeared into the nearby undergrowth. The remaining one, however, ran after me for about 10 to 15 yards and when I decided to stop it did the same, resting between my feet. I slowly bent down and stroked its head for about 10 seconds, before it ran off into the undergrowth. I have read of rabbits behaving in this manner using man as a guardian if about to be attacked by a stoat or weasel, though in this case there was no sign of any predator. It has been suggested that the rabbit had myxomatosis and may have been very nearly blind so that it did not realise exactly what it was doing. There were, however, no signs of myxomatosis, and it appeared to be perfectly healthy, both in the way it ran and in its general alertness.

P. G. KITCHENER.

NEW MEMBERS

a Associate.

i Junior Member.

s Student Member.

sAngell, Miss H, Shenstone Lodge, Ashburnham Road, Bedford. Beal, H. C., 128 Bromham Road, Bedford. Beal, Mrs. H. M., 128 Bromham Road, Bedford. Beveridge, Mrs C. M., 7a Newnham Road, Bedford. Boyde, Dr J. C., 93 Spenser Road, Bedford. Boyde, Mrs D. M., 93 Spenser Road, Bedford. jCapon, I., 4 St. Alban Road, Bedford. Clayton, K. A., 2 Crackle Hill Road, Meppershall, Shefford. Clutten, Miss B. M., 67 Bishopscote Road, Luton. sCrouch, G. A., 62 Stancliffe Road, Bedford. Dickinson, Miss S. B., 7 Greenacres, Bedford. sFouladi, C., 20 Cardington Road, Bedford. Frankel, Miss H., 4 Merton Road, Bedford. sFreeman, Miss M. I., 50 Farley Hill, Luton. Hester, S. J., 44 Coombe Drive, Dunstable. Hutchinson, Miss E. R. E., St. Mary's Cottage, Oakley. sJeffreys, Miss E. A., 65 Chaucer Road, Bedford. Morgan, Miss J. B., 61 Ashburnham Road, Luton. Morgan, Mrs K., 61 Ashburnham Road, Luton. Price, J. A., 360 Beechwood Road, Luton. Rix, R. W., 12 Folly Lane, Caravan Park, Caddington, Luton. KIX, K. W., 12 Folly Lane, Caravan Park, Caddington Sacree, B. R., 15 Mendip Crescent, Bedford. Sharrock, J. T. R., 97 Bromham Road, Bedford. Walker, Dr R. E., 1a St Augustine's Road, Bedford. aWalker, Mrs D. G., 1a St Augustine's Road, Bedford. sWaterfall, Miss A. E., 283 Old Bedford Road, Luton. sWesley, P. D., 36 Linden Road, Bedford. West, Mrs B. B., 39 Station Road, Willington. Winder, Mrs D., 5 Bridge End, Bromham.

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Any member may compound for life by a single payment of £10.

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The Honorary Treasurer,
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NOTICE TO CONTRIBUTORS

The Editorial Committee is most anxious to obtain contributions on the natural history of the county from as many members as possible for publication in *The Bedfordshire Naturalist*. Paragraphs from members about their own observations are specially desired, even if quite short. Whenever possible, material should be typewritten in double spacing on one side only of the paper; handwritten contributions will be accepted only if entirely legible. Special care should be taken to ensure the accuracy of any scientific names used. Illustrations or diagrams should not be prepared without prior consultation with the Editor.

Contributions for the 1964 Journal should be sent to the *Honorary Editor* as soon as possible, and anything received after 31st March, 1965, may be returned, or held over for a subsequent issue.

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