

The
BEDFORDSHIRE
NATURALIST

BEING THE
JOURNAL
OF THE
BEDFORDSHIRE
NATURAL HISTORY SOCIETY
FOR THE YEAR
1964

No. 19

Price Five Shillings

PUBLISHED BY THE
BEDFORDSHIRE NATURAL HISTORY SOCIETY

BEDFORD
STONEBRIDGES PRINTERS LTD.
1966

BEDFORDSHIRE NATURAL HISTORY SOCIETY

1965

President

F. G. R. SOPER, J.P.

Immediate Past President :

H. A. S. KEY, M.P.S.

Past Presidents

J. G. DONY, Ph.D., A.L.S.

W. E. K. PIERCY, B.Sc.

Chairman

A. W. GUPPY, B.Sc.

Hon. General Secretary

F. D. HAMILTON, 30 IVEL ROAD, SANDY

Hon. Treasurer

J. M. DYMOND, 91 PUTNOE LANE, BEDFORD

Hon. Editor

A. W. GUPPY, B.Sc., 22 POPLAR AVENUE, BEDFORD

Council

MISS E. M. DAY

MISS E. FAIREY

MISS D. ROOK

DR D. M. JEFFREYS

A. LIVETT

S. W. RODELL

P. SMITH

L. A. SPEED

R. G. O. STEPHENSON

B. B. WEST

M. D. WORTLEY

RECORDERS

BOTANY:

Except Fungi : J. G. Dony, Ph.D., A.L.S., 9 Stanton Road, Luton.

Fungi :

D. A. Reid, B.Sc., No. 2 Kew Cottage, Royal Botanic Gardens, Kew.

METEOROLOGY:

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

ZOOLOGY:

Insecta :

Hymenoptera :

V. H. Chambers, Ph.D., 12 Douglas Road, Harpenden, Herts.

Lepidoptera : B. B. West, A.R.I.B.A., 39 Station Road, Willington.

Odonata : K. E. West, 37 Cardington Road, Bedford.

Vertebrates :

Amphibians, Fishes and Reptiles :

F. G. R. Soper, The Briars, Bromham.

Birds : F. Hamilton, 30 Ivel Road, Sandy.

Mammals : H. A. S. Key, Friary House, Greyfriars, Bedford.

THE BEDFORDSHIRE NATURALIST
 BEING THE
JOURNAL
 OF THE
BEDFORDSHIRE NATURAL HISTORY SOCIETY
 EDITED BY A. W. GUPPY, B.Sc.

No. 19—1964

CONTENTS

	PAGE
OFFICERS OF THE SOCIETY	cover ii
CONTENTS	1
1. STATEMENT OF ACCOUNTS	2
2. PROCEEDINGS	
INDOOR MEETINGS	3
FIELD MEETINGS	4
THE FUNGUS FORAY, 1964	5
3. FLOWERS IN COLOUR. <i>by R. G. O. Stephenson</i>	6
4. REPORTS OF RECORDERS	
METEOROLOGY. <i>By A. W. Guppy</i>	10
BIRDS. <i>By D. A. Rook, A. J. Livett, R. G. O. Stephenson and M. D. Wortley</i>	10
5. ANGLESEY, 22ND-24TH NOVEMBER, 1963. <i>By Elaine Fairey</i> ...	23
6. COMMON TERNS AT WYBOSTON, 1963-1964. <i>By Peter Smith</i> ...	26
7. AN INVESTIGATION OF SPORES IN THE AIR. <i>By T. Whiffin</i> ...	27
8. ORNITHOLOGICAL IMPRESSIONS OF ANDORRA. <i>By P. J. Wilkinson</i>	29
9. MOLLUSCA AT FLITWICK. <i>By Bernard Verdcourt</i>	30
10. SOUTHILL REVISITED. <i>By Bruce Campbell</i>	31
11. THE FUNGUS FORAY, 1965	36
12. LIST OF MEMBERS	39
13. OBITUARY	44
NOTICES	cover iv

BEDFORDSHIRE NATURAL HISTORY SOCIETY

STATEMENT OF ACCOUNTS FOR THE YEAR ENDED 31st DECEMBER, 1964

RECEIPTS	£	s.	d.	£	s.	d.	PAYMENTS	£	s.	d.	£	s.	d.
Cash at Bank and in Hand at 1st January, 1964				137	14	5	Printing, Postages and Stationery ...				45	2	2
Donations & Subscriptions:							Meetings—Expenses				8	0	0
Subscriptions 1964 and arrears ...	118	8	6				Bedfordshire Naturalist Journal ...				97	19	9
Subscriptions 1965 and 1966 ...	9	2	0				Subscriptions and Donations to other Societies				5	11	0
				127	10	6	Sundry Expenses				5	0	0
Surplus on Bird Bulletins				2	0	3	Cash at Bank, 31st December,, 1964	129	0	6			
Surplus on Coach Trips				2	14	6	Cash in Hand, 31st December, 1964	11	13	6			
Surplus on Film Shows				24	10	3					140	14	0
Donations				1	12	0							
Sundry Receipts				1	10	0							
				£297	11	11					£297	11	11

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

BEDFORD.
26th February, 1965.

THORNTON BAKER & CO.,
Chartered Accountants, Hon. Auditors.

PROCEEDINGS, 1964

Indoor Meetings

189TH ORDINARY MEETING, 15th January, 1964, Luton. "Lundy" by Miss Hager and Mrs Bland. Owing to bad weather the authors could not attend and the Chairman gave the talk from their notes. Attendance 14. *Chairman*: M. D. Wortley.

190TH ORDINARY MEETING, 23rd January, 1964, Bedford. "North American Scenes" by Miss Pamela Soper. *Chairman*: F. G. R. Soper.

191ST ORDINARY MEETING, 12th February, 1964, Luton. "Freshwater Life" by Mrs F. Farnham. Attendance 40. *Chairman*: R. G. O. Stephenson.

192ND ORDINARY MEETING, 20th February, 1964, Bedford. "A Naturalist in Shetland" by E. G. Meadows. *Chairman*: F. G. R. Soper.

17TH ANNUAL GENERAL MEETING, 12th March, 1964, Bedford. Attendance 53. *Chairman*: F. G. R. Soper. Details as printed in last issue, No. 18, 1963, p. 9.

193RD ORDINARY MEETING, 18th March, 1964, Luton. "Glimpse of Greenland" by E. G. Meadows. *Chairman*: M. D. Wortley.

SPECIAL FILM SHOW, 25th March, 1964, Luton Central Library. "Highland Birds."

194TH ORDINARY MEETING, 15th October, 1964, Bedford. "Butterflies and Moths" by Dr D. M. Jeffreys and W. J. Champkin. *Chairman*: F. G. R. Soper.

195TH ORDINARY MEETING, 22nd October, 1964, Luton. "Clouds" by A. W. Guppy. Attendance 18. *Chairman*: R. G. O. Stephenson.

SPECIAL FILM SHOW, 5th November, 1964, Bedford Civic Theatre. "Swallows at the Mill" and "A Waterbird's World". *Chairman*: F. D. Hamilton.

196TH ORDINARY MEETING, 19th November, 1964, Bedford. "Northward Ho! for Birds" by the President, H. A. S. Key. *Chairman*: F. G. R. Soper.

197TH ORDINARY MEETING, 26th November, 1964, Luton. "Nature Conservation in East Anglia" by Dr Bruce Forman (Nature Conservancy). *Chairman*: M. D. Wortley.

198TH ORDINARY MEETING, 3rd December, 1964, Bedford. "Glimpse of Greenland" by E. G. Meadows. *Chairman*: F. G. R. Soper.

199TH ORDINARY MEETING, 14th December, 1964, Luton. "Bird Ringing" by Bob Spencer (B.T.O.). *Chairman*: R. G. O. Stephenson.

Field Meetings

SUNDAY, 16TH FEBRUARY, 1964. PAGHAM HARBOUR. *Leader*: M. D. Wortley.

SUNDAY, 19TH APRIL, 1964. FELMERSHAM GRAVEL PITS. *Leader*: A. W. Guppy.

SUNDAY, 26TH APRIL, 1964. BARTON HILLS: DAWN CHORUS. *Leader*: R. G. O. Stephenson.

SATURDAY, 2ND MAY, 1964. MONK'S WOOD. *Leader*: B. B. West.

THURSDAY, 21ST MAY, 1964. SANDY LODGE. *Leader*: F. D. Hamilton.

SUNDAY, 31ST MAY, 1964. BLAKENEY POINT. *Leader*: Dr D. M. Jeffreys.

SUNDAY, 7TH JUNE, 1964. MINSMERE. *Leader*: M. D. Wortley.

THURSDAY, 11TH JUNE, 1964. STOCKGROVE WOODLANDS. *Leader*: M. D. Wortley.

THURSDAY, 18TH JUNE, 1964. BOTANICAL EVENING IN BEDFORD. *Leader*: A. W. Guppy. (Abandoned owing to heavy rain).

SATURDAY, 27TH JUNE, 1964. HOLME FEN. *Leader*: Dr D. M. Jeffreys.

SUNDAY, 5TH JULY, 1964. UPPER DOVEDALE. *Leader*: W. Durant.

THURSDAY, 9TH JULY, 1964. FELMERSHAM GRAVEL PITS. *Leader*: A. W. Guppy.

SUNDAY, 19TH JULY, 1964. BEDFORDSHIRE NATURE RESERVES (Cooper's Hill, Flitwick Moor and Totternhoe Knolls). *Leader*: A. W. Guppy.

SUNDAY, 2ND AUGUST, 1964. BARGE TRIP: LINSLADE TO MARSWORTH.

SUNDAY, 4TH OCTOBER, 1964. PITSFORD RESERVOIR. *Leader*: T. A. Hasdell.

SUNDAY, 11TH OCTOBER, 1964. FUNGUS FORAY, WREST PARK, SILSOE. *Leader*: Dr Derek Reid.

The Fungus Foray, 1964

The fungus foray, held at Wrest Park, Silsoe, on 11th October, was led as usual by Dr D. A. Reid, and between 20-25 members of the Society were present.

The outstanding feature of the foray season of 1964, at least in South-East England, was its extreme dryness. Luckily there had been an odd shower of rain a day or two before the foray and this had been sufficient to enable a number of the smaller and more rapidly growing agarics to appear. It is for this reason that dark-spored species belonging to the genera *Coprinus* and *Psathyrella* figure so prominently in the list of fungi collected. A number of these species, most of which can only be identified after microscopic investigation, proved to be new to the county.

Another noteworthy feature of the foray was the abundance of wood-inhabiting species; polypores were especially well represented. This was due to the number of mature trees in the park and to the presence of large piles of logs stacked in damp situations near water. It was on the latter than fine collections of *Merulius molluscus*, *Caldesiella italica* and a small-spored form of the bright yellow resupinate *Tomentella echinospora* were obtained, all of which are new to the county. Another interesting fungus found for the first time in Bedfordshire is *Gloeocystidium leucoxanthum*.

In all 78 species were collected, of which 19 were new to the county, and while many of these were not spectacular to look at they were nevertheless of great interest.

Amanita echinocephala (Vitt.) Quél.; *Armillaria mellea* (Vahl ex Fr.) Kummer; *Clitocybe aurantiaca* (Wulf.) Studer; *Collybia radicata* (Rehl. ex Fr.) Quél.; *Coprinus atramentarius* (Bull. ex Fr.) Fr.; **C. callinus* Lange & Smith; **C. hemerobius* Fr.; *C. hiascens* (Fr.) Quél.; *C. lagopus* (Fr.) Fr.; *C. micaceus* (Bull. ex Fr.) Fr.; **C. narcoticus* (Batsch ex Fr.) Fr.; *C. plicatilis* (Curt. ex Fr.) Fr.; *C. radians* (Desm.) Fr.; **C. silvaticus* Peck; *Flammula gummosa* (Lasch) Kummer; *Galera rickenii* (Schaeff.) Kühn.; *Hypholoma fasciculare* (Huds. ex Fr.) Kummer; **Marasmius recubans* Quél.; *Mycena ammoniaca* (Fr. ex Secr.) Quél.; *M. galericulata* (Scop. ex Fr.) S. F. Gray; *M. galopus* (Pers. ex Fr.) Kummer; *M. olida* Bres.; *M. speirea* (Fr. ex Fr.) Gillet; *M. tenerrima* (Berk.) Sacc.; *Pleurotus cornucopiae* (Paulet ex Pers.) Rolland; *Pluteus cervinus* (Schaeff. ex Fr.) Kummer; *Psathyrella atomata* (Fr.) Quél.; **P. caudata* (Fr. ex Fr.) Quél.; *P. disseminata* (Pers. ex Fr.) Quél.; *P. gracilis* (Fr.) Quél.; **P. longicauda* Karst.; *P. obtusata* (Fr.) A. H. Smith; **P. pseudogracilis* Romag.; *Stropharia aeruginosa* (Curt. ex Fr.) Quél.; **S. merdaria* (Fr.) Quél.

Daedalea quercina [L.] Fr.; *Fomes annosus* (Fr.) Cooke; *F. ulmarius* (Sow. ex Fr.) Sacc.; *Ganoderma applanatum* (Pers. ex Wallr.) Pat.; *Polyporus adustus* [Willd.] Fr.; *P. dryadeus* [Pers.] Fr.; *P. fragilis* Fr.; *P. giganteus* [Pers.] Fr.; *P. kymatodes* Rostk.; *P. squamosus* [Huds.] Fr.; *P. sulphureus* [Bull.] Fr.; *Polystictus versicolor* (L. ex Fr.) Fr.; **Poria eupora* (Karst.) Cooke; *P. versipora* (Pers.) Baxter; *Trametes mollis* (Somm. ex Fr.) Fr.

**Grandinia brinkmannii* Bres.; *G. granulosa* Fr.

**Typhula gyrans* Fr.

**Caldesiella italica* Sacc.; **Gloeocystidium leucoxanthum* (Bres.) Höhn. & Litsch.; *Merulius corium* Fr.; **M. molluscus* Fr.; *Peniophora cinerea* (Fr.) Cooke; *Stereum hirsutum* (Willd. ex Fr.) S. F. Gray; *S. purpureum*

(Pers. ex Fr.) Fr.; *S. sulphuratum* Berk. & Rav.; **Tomentella echinospora* (Ell.) Bourd. & Galz.

Lycoperdon pyriforme [Schaeff.] Pers.

Dacrymyces deliquescens (Bull. ex Mérat) Duby.

Auricularia mesenterica Fr.

Exidia nucleata (Schw.) Burt.

Aleuria repanda (Karst.) Boud.; *Cyathicula coronaria* (Bull. ex Fr.) de Not.; **Galactinia proteana* Boud.; **Helotium herbarum* (Pers.) Fr.; **H. vitellinum* Rehm.; *Melastiza chateri* (W. G. Smith) Boud.

Daldinia concentrica (Bolt. ex Fr.) Ces. & de Not.; *Leptosphaeria acuta* (Fr.) Karst.; *Nectria cinnabarina* (Tode ex Fr.) Fr.; *Xylaria hypoxylon* (L. ex Fr.) Grev.; *H. polymorpha* (Pers. ex Fr.) Grev.

Ptychogaster albus Corda.

* New county record.

DEREK A. REID.

Flowers in Colour

BY R. G. O. STEPHENSON

Over the past ten years I have managed to get much satisfaction and enjoyment from photographing wild flowers, and I should like to persuade others that it can be done quite easily and cheaply and will give a great deal of pleasure. Many think it needs very expensive equipment and great technical skill, but neither of these things is true. Perhaps if I outline the basic equipment needed and the main pitfalls to be avoided, I can put the difficulties into perspective and thus encourage some readers to try for themselves.

EQUIPMENT

Surprisingly enough, the camera is of relative unimportance. If I were asked to suggest a camera to start with I would recommend a 35 mm. reflex, but, as with most people, I already had a camera when my interest turned to flowers. Good results can be obtained with any camera that has:—

- (1) Good definition;
- (2) A focusing lens;
- (3) A reasonable range of shutter speeds, say 1/25, 1/50 and 1/100 second and an aperture no smaller than f/8. Those with "Bright" and "Dull" and a fixed focus lens are not really suitable.

Perhaps the only absolutely essential item is a close-up lens. Some expensive cameras focus down to a few inches, but most normal ones do not focus closer than 3½ feet. To get down to

10 or 12 inches, and this is a "must", a set of additional lenses can be bought. These need not cost more than about 15/- each, including the adaptor to fit to the camera, and they are usually sold in sets of three, called 1, 2 and 3 diopters. These will allow focusing in the range from 10 to 20 inches.

A small tripod is almost indispensable; the type sold as "table top" is reasonably suitable, and a ball and socket head to allow the camera to be tilted, completes the camera part of the equipment.

An exposure meter is essential. Whilst it can be omitted, the lighting conditions in woods and undergrowth can be so variable that it will always pay for its cost by preventing waste of film due to incorrectly-guessed exposures. The modern camera with a built-in coupled meter is, to my mind, somewhat inflexible, but no doubt a person used to such a camera will produce as good results as those produced with a separate meter, providing he fully appreciates its limitations.

A measuring tape is also needed—more about this later.

FILMS

The range of colour films available is quite large, although smaller than a few years ago.

There are two basic sorts, and if cost is a consideration, then transparencies will be chosen rather than colour negative, which produces colour prints. Against this however must be set the cost of the projection equipment, but, as with the camera itself, I assume that anyone interested in taking up flower photography already has some equipment and is more or less committed to one type of film. As a personal view, however, I feel that the colour print can never match the brilliance and luminosity of a transparency and I would suggest that transparencies are the obvious choice for the budding flower photographer, (pardon the pun!).

In the 35 mm. range the films available are, I suppose, led by Kodachrome II, although I can hear cries of protest from the protagonists of Agfa, Ilford and the other makes, but all these are of very similar technical excellence, and it boils down to personal preference on colour renderings. The last thing to do is to experiment with the film, if you already take satisfactory transparencies.

If cost is of extreme importance, then this brings in the question of home processing. This may sound a bit frightening, but it is really quite simple and there is nothing to match the satisfaction of stripping a wet film off the spiral in the developing tank, holding it up to the kitchen light and seeing a row of glowing transparencies, all one's own work.

There are only two readily-available home-processed films,

Ferrania-color and Ektachrome. I use the former and have done so for 10 years, and consider it is an extremely "good-natured" film. By this I mean that one can "get away with" minor inaccuracies in exposure, development and handling and still produce a reasonable result. However, one's choice of material is nearly always conditioned by personal circumstances, so I need say no more about it, except that by using Ferraniacolor in 120 size, 16 exposures of $2\frac{1}{4}$ in. \times $1\frac{5}{8}$ in. per film, I can keep the cost down to about 1s. 2d. per slide, including film, development, chemicals, mounting masks and glasses.

TAKING THE PICTURE

As I said before, the camera is unimportant. The greatest asset any photographer can have, whether he be taking mountains or molehills, is "the seeing eye". This is something that cannot be bought and, speaking personally, one is unaware of not having it until one sees photographs taken by someone who has.

There is the world of difference between what photographers, rather condescendingly, call a "record" picture and a "balanced" and "composed" picture.

However, having said that, I will leave it there, because, although I believe the above to be true, I have only occasionally approached an artistically correct picture, and then more by luck than judgement, and I cannot aspire to say how it can be done.

To "get down to brass tacks", assuming you come across a Pasque-flower or a Man Orchid which you wish to preserve on film, let me outline a few basic principles.

Firstly, do not take the first specimen you find. Look around; there will probably be some with better grouping than others. Ideally, two or three blooms which are facing in different directions will show all the features of the species—but here, of course, one is torn between the "record" and the "artistic" approach.

Secondly, try to find shelter from the wind. This is the biggest difficulty, and unless you are using a very fast film and the light is exceptionally bright, you are committed to a small aperture to get depth of field. This means, of course, a slow shutter speed and every movement in the subject will result in blurring.

Thirdly, try to get a contrasting background shadow or rock to throw the subject into relief. Here, back lighting very often helps, specially with flowers having rough or furry textures.

Fourthly, do get close in. The impact is much greater when the flower fills the screen and drops of dew are seen glinting in the sun. It is far better to isolate one bloom than to take the whole plant—unless, of course, you are looking for the "record". In any case, two exposures can be made, one showing the plant in its surroundings and another a close-up of the flower head.

This, then, puts you in the position of having decided what viewpoint to use on which flowers. The second biggest difficulty is the limited depth of field. As I said earlier, the selection of speed and aperture is usually conditioned by light and wind movement, and you often have to set the camera at, say, 1/50th second at f 8 as a compromise. That gives a depth of field of something in the order of 1 in. at 12 in. (with a 10 cm. lens; it would be more with a normal 35 mm. camera). The focusing has to be absolutely exact and, assuming that the camera is not a reflex, the only way to do this is by measurement. The supplementary lenses are usually sold with tables showing at what distance to focus the camera for a given distance with the lens in position, and this must be followed exactly. Perhaps this sounds somewhat discouraging, but I have obtained very many sharp pictures by this method, even some of butterflies, when I hold the steel measuring tape out to one side and moved the camera back and forth until, by guess, its tip was level with the subject. The thing to remember is that the zone of sharpness (depth of field), although limited, extends approximately equally in front of and behind the actual distance mentioned in the tables; therefore one measures from the middle of the subject, rather than from the part nearest to, or the part farthest from, the camera.

The third pitfall is "parallax", which really means that the viewfinder does not show *exactly* what the camera is taking. This is of negligible importance at over 3 feet but at 1 foot it is of extreme importance. The only type of camera that really overcomes this is the single-lens reflex, whilst the twin-lens reflexes of the Rollei range almost overcome it. With other cameras with normal optical viewfinders it can be minimised by lining up the subject to the lens of the camera by eye. This must, of course, be done in both horizontal and vertical planes, but is not as difficult as it sounds. Cameras that have the viewfinder directly above the lens are easiest to use in this respect as there is no lateral parallax, and the only lining up to be done is from the side.

There is one method which overcomes a good deal of these difficulties, but which I dislike, perhaps as much for the perverse delight I get in overcoming difficulties the difficult way, as for my distaste for the flatly-lit results—that is, the use of electronic flash. This allows a tiny aperture and thus a big depth of field, and the speed of the flash cuts out all wind movement.

In conclusion, I might suggest that the easiest way to experiment is to load the camera with black and white film and shoot off the whole lot, trying out all the various combinations of speeds and apertures, angles and distances. However, I wonder—once I had used my first colour film ten years ago, I never went back to black and white!

Reports of Recorders

METEOROLOGY

Continuing a tendency which began in the preceding December, the year 1964 was unusually dry, particularly during the second half, and those who had vainly expected a fine summer in 1963 after the severe winter of that year were at last rewarded by some periods of really warm weather which continued with slight intermissions into the first week of October.

The first three months of the year were rather chilly under the influence of predominantly easterly and northerly winds, although there was no severe weather, but a sudden rise of temperature of nearly 20 deg. F. on the 5th April heralded a spring and summer with numerous spells of warm dry conditions. The hottest day of the year occurred during the last week of August, and the summer did not really finish until the 5th October with the thermometer still attaining 70 deg.

TEMPERATURES of 80 deg. were reached or exceeded on fourteen days, the highest reading being 89 deg. on the 26th August. The coldest day was the 16th December with a maximum of 31 deg. while the coldest night was that of the 13th January, with 16 deg. F.

RAINFALL was everywhere deficient by about 25 to 30% of normal, and only four years since 1900 have been drier (1901, 1902, 1921 and 1943). The second six months of the year, with less than six inches of rain between them, probably constitute a record for the past century. The longest succession of wet days was the period of 21 days from 11th April to 2nd May inclusive; against this was a dry spell of fifteen days from 22nd June to 6th July.

SNOW was confined to six days of the year and was very slight and disappeared quickly.

THUNDERSTORMS were once again less numerous than usual; July could muster only one. Accompanying rainfall was not particularly heavy, but special mention must be made of the remarkable lightning which occurred during the storm on the night of 13th-14th June.

A. W. GUPPY.

BIRDS

WINTER MOVEMENTS

The weather on the whole remained mild, with only the odd cold spell occurring during the period January-March. As a result of this, few records were received of high concentrations of wildfowl or unusual sightings. The only species of any note in January were single immature Long-tailed Duck at Wyboston Gravel Pits on 12th and one male Smew at Stewartby Lake on the 19th. Wildfowl numbers reached their maximum by mid-January and then decreased rapidly during the remainder of January and being completely absent by early February in some species. Single Bewick's Swan and Common Scoter were present at Bedford Sewage Farm in early March.

Fieldfare and Redwing showed a considerable increase on last year with flocks varying from c. 20-500. The largest concentration was of a roost of c. 500 at Stewartby in early March.

All the reports for Siskin and Redpoll came from the Greensand belt with 35+ observed in Stockgrove Woodlands on 8th February and 50+ reported at Flitwick Moor on 21st March. Redpoll increased from c. 7 on the 1st January at the Lodge, Sandy, rising to a maximum of 100+ on the 4th and decreasing to c. 60 on 5th and c. 10 from 6th-9th.

RAINFALL FOR 1964

Month	Bedford	Cardington	Kempston	Luton A	Luton B	Silsoe
January ...	0.84	0.86	0.80	0.70	0.60	0.75
February ...	0.68	0.60	0.68	1.07	0.96	0.72
March ...	2.69	2.59	2.71	3.08	2.96	2.31
April ...	2.18	2.34	1.97	3.31	2.74	2.57
May ...	0.77	0.80	0.94	1.62	1.30	0.71
June ...	3.18	3.55	3.29	4.34	4.22	3.26
July ...	1.03	1.14	1.18	0.84	0.87	0.74
August ...	0.69	0.57	0.65	0.56	0.48	0.70
September ...	0.81	1.04	0.91	0.59	0.62	0.75
October ...	0.80	0.89	0.83	1.50	1.01	0.84
November ...	0.79	0.75	0.87	1.32	1.20	0.90
December ...	1.12	1.31	1.34	2.28	2.17	1.37
Totals ...	15.58	16.44	16.17	21.21	19.13	15.62

Bedford (Kimbolton Road) (Mr Lock)
 Cardington Aerodrome (per Mr Speed)
 Kempston (Mr C. S. Payne)

Luton A (Crescent Road) (Mr Meadows)
 Luton B (Runley Wood) (Mr Meadows)
 Silsoe (N.I.A.E. per Mr R. I. Edwards)

DEPARTURE OF WINTER VISITORS

Redwing were last seen at Bedford SF on 2nd April and Fieldfare on the 18th, after decreasing from c. 40 in the first week and 25 on the 11th.

Up to 100+ Redpoll were in the Rowney Warren area up to 10th April, but only two were seen on the 21st.

A flock of 100+ Golden Plover, about half being Northern race, were near Stanford GP on the 6th April and three last seen near Stevington on 12th.

During the first three weeks of April reports showed that a passage of Common Snipe was taking place through suitable habitats.

SPRING MIGRATION

Garganey were the first summer visitors to arrive in the county at Felmersham NR on 11th March, followed by a single bird at Bedford Sewage Farm on the 21st. A single Wheatear was seen on the 26th, and the 27th brought records of Hobby, four Chiffchaff and a Sedge-warbler at Felmersham NR, and also a very early date for a Hoopoe seen at The Lodge, Sandy, on 27th March. The 28th brought in the first Willow Warblers and an early Tree Pipit at Rowney Warren, followed by the first Sand Martin and an early Yellow Wagtail on the 30th at Wyboston Gravel Pits. The main influx of Willow Warbler and Chiffchaff did not occur until the 9th and 10th April and soon became widespread over the next ten days. Common Whitethroat first arrived on the 10th April, followed by Blackcap on the 11th, both species becoming abundant between the 15th and the end of the month. The first of the House Martins did not arrive until the 12th April, followed by Swallows on the 16th, but not seen in any numbers until the 18th-20th. An unusually early date was recorded for Black Tern on the 26th April at Stewartby Lake and then a gap of three weeks before the main passage came through between 17th-31st May. A few single Common Terns were noted in early May and June as well as two Sandwich Terns at Stewartby Lake on 5th May.

BREEDING STATUS AND DISTRIBUTION

Four areas reported juvenile Crossbills during the breeding season at Rowney Warren and The Lodge, Sandy in April, also at Woburn Sands in May and Old Warden in June.

The only breeding report for Whinchat was from Stewartby and for the second year running no trace of this species could be found in the Warden Hill area. This species does unfortunately seem to be on the decrease. The Greensand belt area survey on 14th June showed four pairs of Redstart and three single birds to be holding territory in the Stockgrove, Fox Corner, Heath and Reach area and also three pairs at Charle Wood. At least two pairs bred at The Lodge, Sandy.

The Wood Warbler has been confined mostly to the western end of the Greensand area as in most previous years, but with no proof of breeding. For the second year running a pair of Common Tern successfully reared young at Wyboston Gravel Pits.

Although the Red-backed Shrike appears to have deserted the well-known sites at Blows Downs and Galley Hall, near Luton, it is pleasing to report successful breeding at two localities in the Hexton and Barton Hills area.

AUTUMN PASSAGE OF WADERS

The wader passage during Autumn was exceedingly poor and J. N. Dymonds' excellent coverage of Bedford SF during August and September was very unrewarding with all species recorded in below average numbers. Green Sandpiper reached a peak of c. 11 on 15th August and 10+ on 24th, only 1-3 Common Sandpiper present throughout August-September and single Wood Sandpiper seen on most days from 18th August-9th September. Dunlin and Spotted Redshank—only single birds recorded on 17th and 19th respectively. Both Greenshank and Ruff were present in below average numbers.

AUTUMN MIGRATION

During the last nine days of August Turtle Doves were reported at Wyboston in numbers up to 100, but decreasing to one or two by 5th-9th September. The main departure of Swifts seems to have taken place from 20th-26th with small numbers seen during the first week in September and one late bird on 22nd over Putnoe. A strong evening passage of Swallows and House Martins was observed near Houghton Regis in 12th-13th September (c. 2,000 on 13th). No particularly late Hirundines this year, the last being two Swallows on 15th October and three House Martins on 11th. Seven records of single Wheatears seen on passage between 7th July-20th September. Yellow Wagtail numbers showed a marked increase at Bedford Sewage Farm and Wyboston Gravel Pits on the 29th August, with fifteen birds recorded at both localities, ten being the previous maximum on 18th August. Numbers then dropped abruptly to 2-3 on six dates between 1st-12th September.

October brought an unusually high crop of odd late records; Common Whitethroat on the 1st followed by a Spotted Flycatcher on the 6th and finally a female Redstart at Stockgrove Woodlands on the 16th.

ARRIVAL OF WINTER VISITORS

Very poorly documented this Autumn in the few reports of early arrivals and general distribution.

The first Redwing were seen at Bedford Sewage Farm on 3rd and 5th September in small numbers, with no large flocks seen until the new year. Fieldfare as in most previous years did not arrive until the third week in October—the 20th. No large flocks seen until the 5th December with c. 150 at New Fenlake. Golden Plover was reported as irregular in the Henlow area until November. December reports from Chiltern Green-East Hyde area showed an increase from c. 30 on 5th to c. 200 on 26th.

Observers' names are indicated in the text by the following initials, except where five observers or more have submitted records:

HC—H. Cole.	SWR—S. W. Rodell.
MJC—M. J. Coughlan.	JCR—J. C. Richards.
GJD—G. J. Dring.	ANBS—A. N. B. Simpson.
JND—J. N. Dymond.	PS—P. Smith.
IJFL—I. J. Ferguson-Lees.	RGOS—R. G. O. Stephenson.
FDH—F. D. Hamilton.	WGS—W. G. Sharpe.

DH—D. Hasdell.
 TAH—T. A. Hasdell.
 BDH—B. D. Harding.
 PGK—P. G. Kitchener.
 AJL—A. J. Livett.
 CJM—C. J. Mead.
 ACM—A. C. Morriss.
 PJM—P. J. Mountford.

JTRS—J. T. R. Sharrock.
 BRS—B. R. Sacree.
 CFT—C. F. Tebbutt.
 KRW—K. R. Weedon.
 EMW & PJW—
 E. M. & P. J. Wilkinson.
 RVAW—R. V. A. Wagstaff.
 MDW—M. D. Wortley.

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

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

5. GREAT CRESTED GREBE: The following localities held this species during the breeding season: Luton Hoo L (3 pairs and 3 young), Wyboston GP (1 pair), Chimney Corner CIP (1 pair and 2 young), Millbrook CIP (2 pairs), Stewartby L (4 pairs), Felmersham NR (1 pair and 2 young), Harrold GP (1 pair), Southill Park L (4 pairs and 6 young), Barkers Lane GP (1 pair and 3 young).

28/29. CORMORANT/SHAG: One flying N.E. near Goldington Power Station on the 21st March, (JND).

30. HERON: The only breeding locality visited was Southill Park L and this was not covered properly owing to access difficulties. Two plus nests occupied on 8th April, (PGK).

45. MALLARD: The numbers on Stewartby L peaked at c. 800-1,000 5th and 19th January and decreasing to c. 270 2nd February. Thereafter numbers reduced steadily throughout the remainder of February and March. The autumn numbers began to build up in early September rising to c. 300 by the 13th and again to 14th November, decreasing to c. 200+ on 26th December.

46. TEAL: Numbers on the low side throughout the January-March period in all localities including Bedford SF where they reached a peak of c. 65 on the 18th January and then decreased to c. 20 on 25th, c. 15 16th February falling again throughout March to c. 4 by the 28th. No proof of breeding in the county, but noted at Wyboston GP on 13th June and a single male at Shire Oak, Heath and Reach on 14th June, maximum number recorded in the last three months being c. 40 at Wyboston GP on 31st October.

47. GARGANEY: Very poor year for this species with only two records for the whole year, both in March. 2 males and 3 females at Felmersham NR on 11th March, followed by one female at Bedford SF on 21st, (PGK, JND).

49. GADWALL: One male at Bedford SF 25th January, one female Southill Park L 22nd March, (JND).

50. WIGEON: The largest concentration of this species in the county was at Bedford SF on 18th January with c. 80. The numbers from then on decreased to c. 45, 26th January, and to complete absence by 2nd February. Stewartby L numbers increased from c. 10 5th January to c. 30 on 19th with a peak of c. 40 on 2nd February. Other localities had the following numbers present: Wyboston GP 1-2 present 12th January-21st

March, the maximum number for the period being c. 25 on 9th February. Southill Park L, 1 pair 29th February, Chimney Corner CIP c. 50 2nd February and c. 11 still present on 30th March. The only record received for the latter half of the year being c. 12 at Stewartby L on 26th December.

52. PINTAIL: Single male, Bedford SF 5th January, (PGK). Two males and one female at Wyboston GP 25th January, (JND). Further single males at Bedford SF 15th March and 3rd April, (PGK, DH).

53. SHOVELER: Same pattern as the previous year with only a single male recorded on 26th January at Southill L and then absent until the latter end of March. Three males and two females at Felmersham NR 27th March followed by one pair at Chimney Corner CIP 29th and a further pair at Lingfield GP 31st, (GTD, PGK, ACM). Becoming widespread by April with one pair noted at the following localities: Felmersham NR, Chimney Corner CIP and two pairs at Stewartby L, (PS, PGK, JND, GJD). Single females noted at Bedford SF 18th April, Stanford GP 4th June, (AJL). The only breeding record this year came from Southill Park L with one pair and six young brought off, (JND). Autumn records: Stewartby L one female 18th October, (JND), Barkers Lane GP one male and two females 5th December, (BRS).

56. TUFTED DUCK: The following are the summaries from the main wildfowl areas for the first quarter of the year. Stewartby L—c. 100 5th January reaching a maximum of c. 160+ on 19th and thereafter falling off to c. 30 2nd February and c. 20 1st March. Wyboston GP—numbers rather low, increasing from c. 6 on 12th-25th January to c. 8 8th March, c. 10 21st and a peak of c. 17-20 on the 30th. Definite breeding records from the following localities: Barkers Lane GP one female and nine young. Stewartby L five young. Stanford GP one pair with two young. During the last three months of the year Stewartby L increased from c. 15 on 18th October to a maximum of c. 30 on 13th December and decreasing to c. 20+ by the 26th.

57. POCHARD: The largest concentration of this species during the winter months was at Stewartby L on 5th January with a flock of c. 60-100 and then decreasing steadily to c. 80+ 19th, c. 40 2nd February and c. 12 1st March. Wyboston GP, numbers rather low with numbers fluctuating between c. 6-10 for most of the period. Southill L, a maximum of c. 20 throughout January-February and mid-March, dropping to c. 10 by 30th.

Only two definite breeding records this year from Luton Hoo L with seven young and Battlesden L one pair and seven young, (AJL, BDH). During the autumn numbers at Stewartby increased from c. 13 on the 18th October to a peak of c. 40-50 on 14th November, decreasing to c. 30+ on 13th December and c. 10 on 26th, (JND, PS, DH).

60. GOLDENEYE: Two females at Stewartby L on 5th January, (AJL, JND), single females at Luton Hoo L 22nd March, (AJL), and at Felmersham NR between 11th-13th March, (PGK, GJD). The only autumn records are of two females at Stewartby L on 26th December, (DH, PS).

61. LONG-TAILED DUCK: A single bird, probably immature, was identified at close range on 12th January, (JND, PS).

64. COMMON SCOTER: Single male present at Barkers Lane GP between 4th-6th March, (PGK), one ad. male and female on Stewartby L 19th April, (BDH), two females at Tiddenfoot Pit, nr. Leighton Buzzard first seen on 26th July and single bird still present on 2nd August. This is an extremely unusual date for this species, (RGOS, HC, AJL).

71. SMEW: Single male at Stewartby L on 19th January, (PGK).
73. SHELDUCK: One male on flooded field near Bedford SF 29th March, (DH).
86. BEWICK'S SWAN: One adult bird present at Bedford SF 29th February-8th March, (PJW, PGK, JND).
91. BUZZARD: Two birds of this species seen circling at about 100 feet over Barkers Lane, Bedford on 1st February, (JND), and a single bird was soaring over Milton Wood, Eversholt on 31st August, (MDW).
93. SPARROWHAWK: Reports from scattered points in the county are slightly more numerous than in last two years and the opinion of a keeper from Woburn Estates was that the bird is now present in several localities in the Woburn area.
104. HOBBY: One was identified in flight at Felmersham NR on 27th March, (PGK).
110. KESTREL: A pair with three young were seen at Bedford SF on 25th June, (JND), but no other reports of breeding. Others sighted in Stockgrove, Barton Hills and Henlow areas, but it seems unlikely that all sightings have been reported as requested in the last Report and check list.
115. RED-LEGGED PARTRIDGE: 25+ reported at Wyboston 15th November, (PS).
117. QUAIL: From 5th July to the end of the month this species was heard many times and seen twice in the Warden Hill, Galley Hill area near Luton. Another was heard at Bison Hill, Whipsnade on 15th, (SWR, RVAW, HC).
120. WATER RAIL: Only four reports throughout the year, two from Flitwick Moor on the 21st March and 6th September, (AJL, JND). One at Biddenham 17th March, and one at Felmersham NR on 4th April, (PJW).
127. COOT: Reports from Wyboston cover three of the twelve months and show numbers mostly between 150 and 180 from 12th January to 8th March. From May to August 20 was the maximum counted, with three nests on 21st June. A small increase was shown from September to November, the last count being 46 on 15th.

Other waters have less complete coverage and maximum numbers are as follows: Felmersham NR c. 80 on 11th March, Harrold GP c. 40 on 12th September, Stewartby L 120 on 13th September, Luton Hoo L 90+ on 10th October, Bedford SF 120+ on 26th January, Battlesden L 250 on 5th January, Southill Pk 10+ on 10th January. The last-named water has always been a favourite spot for this bird, but access to the lake is now restricted, so this record must be taken in that context.

131. OYSTER-CATCHER: At least two were heard flying eastward over Sandy at 10 p.m. on 1st March, (FDH).
133. LAPWING: On 12th January a flock of about 500 was seen flying westward over Wyboston. At this same place 200 were reported on 26th July and about 500 on 15th August, (PS, JND).
134. RINGED PLOVER: A single bird was at Dunton, nr. Biggleswade on 19th March and another at Wyboston on 10th May. Only one autumn record—two at Stewartby L on 6th September, (FDH, PS, JND).
135. LITTLE RINGED PLOVER: The first birds seen were five or six at Bedford SF on 15th March, but it was 30th March before they appeared

at Wyboston, where numbers remained at about 10 through April, May and June but without any confirmation of breeding. Smaller numbers were at two other breeding areas, Stanford and Harrold, but again no definite reports of breeding. The only autumn passage reports are from Bedford SF with one or two birds on odd days in August and September, usually being absent on the next day.

140. **GOLDEN PLOVER:** Strangely, reports are concentrated into the first four months of the year, the last being three birds flying S.W. at Stevington on 12th April. Notable flocks were 280 on 9th February and over 600 on 8th March (a particularly large gathering), both in the Houghton Conquest area, about 50 with Lapwings at Dunton, near Biggleswade on 19th March and 100+ at Stanford GP on 6th April. Odd birds were seen at Bedford SF and Wyboston during this period also.

145. **COMMON SNIBE:** No really big flocks— c. 100 on 31st January at Little Barford and a similar number at Bedford SF on 29th September. No summer reports.

147. **JACK SNIBE:** Bedford SF 1-2 seen on 10 days from 5th January to 18th April. Wyboston GP 3 on 30th March and 2 on 4th April.

148. **WOODCOCK:** Reported during the breeding season from Stockgrove Woodland area, Charle Wood and Steppingley Wood and on 22nd August a bird was seen at Wyboston GP, a rather unusual habitat.

156. **GREEN SANDPIPER:** No spring records at all and the first seen on return passage was on 13th June at Wyboston. At Bedford SF numbers increased to 11 on 15th August tapering away to the end of the month with no more than 4 in September—the last being on 22nd. Single birds were seen at Stewartby, Wyboston and Blue Waters, Houghton Regis, during this period.

157. **WOOD SANDPIPER:** As with Green Sandpiper no spring records. Except for one bird at Wyboston on 5th September, all reports are from Bedford SF. Here single birds were seen on ten dates between 18th August and 9th September.

159. **COMMON SANDPIPER:** Birds were seen on spring passage from 21st April to 3rd June at Wyboston and autumn passage was evident from 25th July to 13th September. Of 26 sightings, half were single birds, the maximum of the remainder being six at Wyboston on 22nd August. Due to intensive coverage, most of these were at Bedford SF but Wyboston, Stewartby, Chimney Corner and Garsides and Tiddenfoot Pits, Leighton Buzzard, also were visited.

161. **REDSHANK:** Spring passage was particularly evident at Bedford SF. Numbers increased from a single bird on 16th February to around 10 in late March and April. Through May, June and July up to 12 birds were noted here but no reports of breeding and on 27th July none were seen. Passage birds were also seen at Felmersham NR, Stewartby, Chimney Corner and Wyboston, and at Stanford GP breeding was reported with two pairs and several young on 21st June.

162. **SPOTTED REDSHANK:** A bird was identified by call at Bedford SF on 19th August and another seen at Stewartby on 6th September, (ACM, JND).

165. **GREENSHANK:** Only one spring record—a single bird at Wyboston on 26th May. The first autumn sighting was of one or two birds at Bedford SF on 15th July and up to three were seen here on ten dates up to 12th September. The species was also seen at Wyboston and Dunstable

SF and Stewartby on eight occasions, a maximum of four at the last named and the last on 27th September at Dunstable.

169. KNOT: On 15th March a bird with unusually light brown back and whitish underparts was seen at Bedford SF, (PGK). Two were reported in the winter—one at Houghton Regis CIP on 29th November, (KRW), and one at Tiddenfoot Pit, Leighton Buzzard, on 18th December, (PJM).

178. DUNLIN: On 3rd and 6th March three were reported at Bedford SF in winter plumage. On 17th April one at Stanford, and on 19th and 21st single birds in summer plumage were at Stewartby and Wyboston. In August one was seen at Tiddenfoot Pit, Leighton Buzzard, on 2nd and one at Bedford SF on 17th.

184. RUFF: Reports are confined to the period 15th August to 5th September, mainly at Bedford SF as follows: 15th—1, 17th—6, 18th—7, 19th—7/8, 20th—5, 24th—3, 25th—4, 26th—3, 27th—3, 29th—1, 31st—1, 3rd September—1. Wyboston had single birds on 15th and 22nd also, (JND, ACM, DH, AJL).

GULL MOVEMENTS

The Gull count held at Stewartby Lake on the 5th January showed an unprecedented increase to an all time peak of 24,172. The February count, held on the 2nd, recorded 22,237 overall, 3,056 being Lesser and Greater Blackbacked and Herring, which shows that the increase in early January had more or less been maintained throughout January. However the last count in the series made on 1st March showed a sharp decrease in the February figure, although a decrease was to be expected now as the wintering population moves away to the various breeding grounds and the resident breeding population of Black-headed Gulls in the county is only about 280 birds. The decrease was, in fact, almost half, as only a total of roughly 12,000 birds was recorded as against 22,237 on the 2nd February. The last count was not as accurate as previous ones owing to the disgusting lack of support which made it almost impossible to carry out an accurate estimate.

A lot of field work remains to be done on finding out over what area these birds feed during the daytime, but it seems highly probable that the Stewartby Lake roost draws birds from roughly a 12-14 mile radius, but, from what little information we have, we know this is not constant, and a lot depends on whether or not there is any pull to a neighbouring roost, i.e. Wilstone in the south-west and Pitsford near Wellingborough in the north. A known exception to this is the interesting fact that Gulls which used to roost in the Fen district around St. Neots are now observed in the late afternoon flying in the general direction of Stewartby Lake, a distance of sixteen miles.

198. GREAT BLACK-BACKED GULL: The only record received for 1964 was of eight immatures at Bedford SF, (PGK).

201. COMMON GULL: On 26th June, 1964, an adult was found dead at Cardington which had been ringed at Lake Kohaja, near Pueta, Estonian S.S.R. as a nestling on 10th July, 1960, (CFT).

208. BLACK-HEADED GULL: The only breeding locality to be visited this year was the Millbrook CIP with visits made on two dates, 18th May c. 130 nests counted and 6th June c. 200 adults and about 80 young, (BDH, JND). This is an increase of 28 nests on last year's figures.

211. KITTIWAKE: On 17th November an adult was recorded flying over River Ouse, Bedford, and this record is particularly interesting as this species generally disperses out to offshore regions, (JND).

212. **BLACK TERN:** Single bird on Stewartby CIP on 26th April, followed by eight on 17th May, five on 23rd May and seven on 31st May. Three birds were also recorded at Wyboston GP on 24th May. No records for the autumn passage.
230. **PUFFIN:** Single bird picked up alive at 8.30 a.m. on 7th July at side of railway near Goldington Power Station, Bedford, (W. A. Scott via FDH).
235. **TURTLE DOVE:** First arrival near Sharnbrook 24th April, (GJD), and a further bird at the Grain Silo, Bedford, on the same day, (GJD). Widely distributed first week in May. On the 22nd August a flock of 100 recorded at Wyboston GP, (JND). Last date recorded 12th September, Wyboston GP (PS).
236. **COLLARED DOVE:** A noticeable increase of records for this species. First recorded at Jordan's Grain Silo, Bedford, on 12th April, and many records at same place throughout year. Maximum number recorded 13 on 20th December, (GJD). Records also received of birds in the centre of Bedford on the 6th August, (JF-L), and 23rd September, (JND). Only breeding record for this year was at Bushmead Priory from CFT. No records for the south of the County.
237. **CUCKOO:** First seen 19th April at Dunstable Downs, (AJL). Widely distributed during following week throughout the county. A party of eight recorded at Charle Wood giving display on the 27th May, (AJL). Last record received was of a juvenile being fed by a Hedge Sparrow on the 27th July at Stockwood Park, Luton, (HC).
246. **LITTLE OWL:** Records received for Stockwood Park, Henlow Camp Luton Hoo, (MDW, AJL, MJL).
247. **TAWNY OWL:** Records again received for the southern half of the county, at Heath and Reach, Luton Hoo Park, Blows Downs and Henlow Camp, (MJC, AJL). An adult and one juvenile being mobbed at Luton Hoo on the 30th May, (AJL).
247. **SHORT-EARED OWL:** Three birds present at Colesden Woods on 5th January, and a further bird at Bedford SF on the 18th January, (JND, CFT).
252. **NIGHTJAR:** A noticeable increase in records. First heard at Fairy Hole, Beds./Herts. border, 12th May, (JND). Records received of birds at Sandy Lodge, Southill, Charle Wood, Heath and Reach, and Rowney Warren.
255. **SWIFT:** First record was of two birds at Dunstable SF on the 25th April, (BDH), and general build up in numbers within the next two weeks throughout county. Last seen at Putnoe, Bedford, on the 22nd September.
258. **KINGFISHER:** Only records received for this diminished species is of single birds at Felmersham NR, (BRS), on the 8th November, and also at Castle Mills, nr. Bedford, on the 5th and 12th December, (DH).
261. **HOOPOE:** An extremely early record for this species was of a bird at Sandy Lodge on the 27th March, (J. J. Boswell per FDH). On the 14th June a bird was heard calling at Stockgrove Woods for some time, and the bird was also heard the following day, (BDH, SWR, MDW). On the 21st June the bird was heard and seen in the same area and a full field description taken. At the same time a second bird was heard to call nearby and also on several other occasions during the morning, (AJL, MDW). The bird(s) were subsequently heard on the 23rd June and 11th July, (AJL). On the latter date the bird(s) were again heard calling, and a bird kept flying into one oak tree several times, during the period the bird was under observation. The bird(s) were also heard on the 12th July

and finally on the 1st August, (AJL, RGOS). The possibility of breeding of this rare species cannot be ruled out. A single bird was also present in the same area the previous year between the period 2nd June to 7th July.

264. LESSER SPOTTED WOODPECKER: Reported March at Flitwick Moor, April at Colworth, June at Fox Corner and Biddenham, July at Stockgrove Woodlands and finally October at Ampthill Park.

274. SWALLOW: First seen on 12th April at Emberton GP on Bucks./ Beds. border, (PGK). Becoming more abundant by the 20th April, (KRW, BDH, JND, AJL). Autumn Passage: Roughly c. 200 birds, including House Martins, were noted flying SW-NNE over Houghton Regis on the 12th September and increasing to c. 2,000 on the 13th, (BDH). Last record on 15th October at Ampthill Park, (BRS).

276. HOUSE MARTIN: First recorded on 12th April at Stewartby L, (GJD). Not becoming widespread until the 18th-20th April, (KRW, JND, BDH, PGK). Autumn Passage: Strong movement seen on 12th and 13th September flying SW-NNE over Houghton Regis, (BDH). Last noted at Dunstable SF on 11th October, (KRW).

277. SAND MARTIN: Single bird at Wyboston GP on 30th March, (PGK, PS, DH). This was very much an advance guard, as the next record was not until the 17th April on Barkers Lane GP and not becoming abundant until the 21st, (JND, PGK, KRW). Last recorded at Stewartby L on 20th September, (BDH). Two interesting ringing recoveries were recorded as a result of mist-netting activities in August at the Clophill colony, and are as follows: Ringed 5.8.62, recovered 30.8.64 Wiggenshall, King's Lynn, Norfolk, (roost). Movement 56 miles NE. Ringed 16.8.64, recovered 28.8.64 Pagham, Sussex, (roost). Movement 87 miles S, (MDW).

293. WILLOW TIT: Only two records during the year in March and April. Two near Southill Park on 30th March and a single bird at The Lodge, Sandy, 10th April, (DH, PGK, FDH).

302. FIELDFARE: Last spring record 19th April at Barton Springs. No autumn records.

304. REDWING: Last spring record 2nd April, first autumn record 3rd September, (JND, PGK, AJL, BDH).

308. BLACKBIRD: On the 25th October c. 500 flew over fields at Blows Down, near Luton. Most of them appeared to be young birds, (AJL).

311. WHEATEAR: Earliest recorded arrival was seen along a concrete road near Bedford Airport on 26th March. The last record was one seen near Chiltern Green on 20th September. One male and six females were seen at Stanford on the 10th May. A pair was seen displaying near Blue Waters, Houghton Regis, with another female present in the same field. Two were seen in fields between Letchworth and Stotfold, two near Barton Springs, and a possible juvenile on the 26th June on Warden Hill Golf Course. Three were seen on the 9th May on Dunstable Downs. The remainder of the records were of single birds only.

317. STONECHAT: Two birds, a male and a female, were seen near Eversholt on the 30th June. The male was singing, and was once seen carrying food. No nest was found. One male was seen at Cutenhoe Allotments, (HC, PJW).

318. WHINCHAT: The earliest record was of a male seen at Cutenhoe Allotments, Luton, on the 23rd April: the latest of four birds seen at the same place (Cutenhoe Allotments) on the 18th September.

320. REDSTART: Earliest spring record one bird heard in Heath and Reach Woods on 22nd April. Two pairs were seen in Stockgrove Woods during June. At least two pairs nested at The Lodge, Sandy (one pair in

a nestbox). Up to four pairs were seen at Shire Oak during June. Two males and three young were at Rowney Warren on 28th July. On 5th July 2+ young were seen at free flying stage in King's Wood. One female or immature was seen at Bedford SF. Two pairs were seen on 23rd June on the edge of Fox corner, and there were three pairs (one pair with 3+ young) at Charle Wood. One female was seen on the 1st October at Cutenhoe Allotments, and a single female at Stockgrove woodlands on 15th October.

321. **BLACK REDSTART:** One first year male singing near Station Road, Bedford, 16th June-20th July, mostly from top of dog-food factory in St. Leonard's Street. A female was first seen in Luton on 21st June, a male in same area on 5th July. The male was last seen on 9th August, the female on 13th August. No proof of breeding, (IJF-L, HC).

322. **NIGHTINGALE:** 5 singing between 04.00 and 06.00 hrs. at Hanger Wood on 17th May. This is the only record of this species and numbers still appear to be decreasing, (PGK, JCR).

327. **GRASSHOPPER WARBLER:** Two on 21st April at Potton Woods, one arrived at Millbrook 26th April and was heard thereafter. One was heard between Heath and Reach and Stockgrove Woods on 15th June, two were heard on Dunstable Downs 3rd July. 1/2 at Home Wood near Northill (one singing and maybe another carrying food) on 12th July. Two singing, Markham Hills, side of Sharpenhoe Road, at 9.15 p.m. on 8th August.

333. **REED WARBLER:** One pair at Southill Park Lake on 6th June (occupying territory in reed-bed near boathouse by path—about 30 ft. × 6-8 ft.), (JND).

337. **SEDGE WARBLER:** Earliest record 27th March at Felmersham GP. One was heard singing at Emberton GP, Bucks. on 12th April. There were 8 singing at Felmersham on 20th April, and one singing at Stewartby L on 19th April. 5 were recorded at Stewartby L on 19th April. On 20th April there were 8 singing at Felmersham NR, on the 18th April three at Barker's Lane GP. On 21st April there were 5 singing at Wyboston GP. The last records were of two at Wyboston GP and one at Bedford SF, both on 5th September, (PGK, BDH, JND, PS).

343. **BLACKCAP:** Earliest record, 11th April, one male singing in Bedford School Grounds. On the 15th April there was one singing at Sandy Lodge. One was reported from Felmersham GP on 19th April—3/4 were reported from this place on 20th April. One was reported from Putnoe Wood and Barton Hills on 26th April. In May and June birds were reported from Hanger Wood, Southill Park, Charle Wood, Fox Corner and Shire Oak, also at Stockgrove Woods, Heath and Reach. On the 24th May 8+ were recorded at Hanger Wood. On the 27th April one was recorded from a garden in Luton. On the 6th June a pair with fledged young were seen at Southill Park Lake, and on the 9th August one was caught at Rowney Warren.

346. **GARDEN WARBLER:** The earliest record was a pair on Dunstable Golf Course on 10th May. On the 6th June a pair were seen carrying food to nest at Southill Park, and on the 14th June there were three pairs (two with fledged young) at Charle Wood. On the 14th June one was heard at Fox Corner and one at Rushmere area woodland. Birds were present at Fox Corner, Pennyfathers Hill, Rushmere, Maulden Woods from July to September, (BDH, JND, MDW).

347. **WHITETHROAT:** Earliest record 10th April in back garden of 34 Ripley Road, Luton. The last record was on 1st October at Henlow Camp, (MJC).

348. LESSER WHITETHROAT: Earliest record 6th May at Felmersham NR, latest 3rd September near Heath and Reach. Recorded from six areas in the county during the spring and summer.
354. WILLOW WARBLER: Earliest record 3rd April at Rowney Warren, last on 6th September at Flitwick Moor.
356. CHIFFCHAFF: Earliest record 27th March at Felmersham NR—latest 27th September at Blue Waters, Houghton Regis.
357. WOOD WARBLER: One heard singing on 10th May on Beds.-Bucks. border near Woburn Sands. One was heard singing near Charle Wood on 27th May and 14th June. There was a pair on 14th June at Lowes Wood and one at Fox Corner. On 20th June there were two singing in Stockgrove Woods, near Heath and Reach.
364. GOLDCREST: Reported from Stockgrove Wood, Heath and Reach, and Southill Park, (MDW, AJL).
366. SPOTTED FLYCATCHER: Earliest record 12th May at Hexton, latest 6th October at Biddenham. One pair with nest and three eggs reported from Galley Hill, but this nest later disappeared. A pair feeding young in nest on 20th June at Legrave Marsh.
368. PIED FLYCATCHER: One female at Cutenhoe Road Allotments, Luton, on 7th September, (HC).
376. TREE PIPIT: First record—28th March at Rowney Warren. There was one by River Ivel at Sandy on 31st March. Records from Sharpenhoe Clappers, Dunstable Golf Course, Shire Oak, Fox Corner, Lilley Hoo, Stockgrove Woodlands, Hexton, Barton Hills and Charle Wood.
- 379A. ROCK PIPIT: One recorded at Stewartby on 15th October, (PJW, EMW).
380. WHITE WAGTAIL: One seen on 10th May at Bedford SF, (PGK).
381. GREY WAGTAIL: One recorded from Bedford SF, (PJW, TAH).
382. YELLOW WAGTAIL: Earliest record 30th March at Wyboston GP. Up to 15 at Bedford SF during the summer, up to 15 at Wyboston GP, and up to 20 at Stewartby New Clay Pit. Breeding at Dunstable SF (2 pairs: 6 young), Garsides GP (2 pairs: 6 young) and Chimney Corner Pit.
383. WAXWING: One bird seen at Gas Lane, Ampthill, on 4th January. It stayed until the 9th and was seen by several people, (WGS).
388. RED-BACKED SHRIKE: No records from Warden Hill area after intensive search. On 19th July one male seen on Hexton Hills and nest with young. One pair on 23rd July at Barton Chalk Hills. Three juveniles were seen there on 1st August, and on the same day one female was seen near Sharpenhoe Clappers, (RVAW, SWR, PGK, AJL).
391. HAWFINCH: On 20th April five were seen at Flitwick Plantation, and on the 12th May two at Fairy Hole, Hexton. On the 9th December one was recorded from a copse near Arlesey, (JND, MJC, WGS).
394. SISKIN: On the 9th February 3-5 were seen at Little Brickhill, and on the 29th February c. 6 at Rowney Warren. On the 8th February there were 35 near lake at Stockgrove Park, and on the 21st March 50 in a mixed flock with Redpolls and Tits on Flitwick Moor, (AJL, CJM of B.T.O. per IJF-L, PJW).
397. LESSER REDPOLL: During January-March flocks of up to 100 were reported from Sandy Warren, up to 15 at Southill Park and c. 50 at Rowney Warren. Two trapped at Rowney Warren were both of the race *Carduelis flamma*. During the spring and summer they were reported from King's

Wood, Heath and Reach, Rowney Warren, Fox Corner, Southill Park, Stockgrove Woods, Charle Wood, Warden Warren, Shire Oak area.

404. **CROSSBILL:** Recorded from Woburn Sands, Keeper's Warren, Rowney Warren, Sandy Lodge, Charle Wood, Warden Warren, Brickhill, Heath and Reach and Southill Park. One pair was seen collecting food frequently and taking it to one particular area, but no nest was found and one female was seen collecting nest material (Rowney Warren). Juveniles present at Rowney Warren and The Lodge, Sandy, in April, also at Woburn Sands in May and Old Warden in June.

408. **BRAMBLING:** One near the Travellers Rest, Dunstable, on 29th November. One at Rowney Warren on 17th April. One still in winter plumage at Chiltern Green on 18th April. One male at Biddenham on 14th January, (record by T. M. Hassal per PGK), (AJL, PJW, HC).

D. A. ROOK.

A. J. LIVETT.

R. G. O. STEPHENSON.

M. D. WORTLEY.

ANGLESEY, 22nd-24th NOVEMBER, 1963

So you think Snowdonia is too far for a week-end's mountaineering? Would you then think that a trip to Anglesey to investigate the bird life was only undertaken by persons "not quite right in the head"? Eight ornithologists from the B.N.H.S. had no qualms at all about undertaking the 250-odd mile journey for a week-end's sport at the end of November in 1963. The rendezvous was "The Menai Bridge at Midnight" and both cars, after leaving Luton at 17.45 hrs. arrived within one quarter of an hour of each other at the approaches to the bridge. Quick refreshment was taken from thermos flasks and a few sandwiches devoured so that the landlady of the farm at which we were staying, would not be lengthily disturbed. Our navigators speedily got us to Llanerchymedd (OS106, GR418841) along high banked roads and before we knew where we were, Mrs. Astley had us sitting in her enormous kitchen, drinking hot soup and eating more sandwiches. A little later we learned of the very sad and sudden death of President Kennedy which sent us to our very comfortable beds with heavy hearts.

Early morning light on Saturday, 23rd November, revealed a grey sky and strong winds which later sent intermittent rainy showers scudding across the sky. We thought that the strength of the wind might drive many birds to seek shelter and so we sped north to Cemlyn Bay (OS106, GR331935) which we could see from the map was almost an inland sea with a shingly spur projecting from East to West across its mouth. We were not disappointed in our choice, as many birds were resting in the shelter of the bay. Binoculars scanned the ducklike shapes as 250-300 Wigeon, 10-15 Shoveler, more than 100 Mallard, 12-15 Tufted Ducks, 300-400 Teal, 6-8 Scaup, 25-30 Goldeneye were logged, to mention but a few of the duck which sheltered under the lee of the banks and shingle bar. 6 Cormorant stood on the bar with 2 Grey Plover and overlooked a Redbreasted Merganser swimming in the waves on the seaward side of the bar. Seven Purple Sandpipers, with their beautiful purplish breasts and blacktipped yellow bills, searched diligently for food amongst the wave-lashed rocks on the northern coast and 20-25 Turnstone rummaged amongst the Fucus-covered boulders.

Having satisfied ourselves that no rarities had been overlooked, we then speeded in a south-westerly direction towards Holy Island (OS106, GR285798) when 2 Merlin were seen by both carloads of people as they skimmed over the walls bordering the fields. We endeavoured to walk south from the road initially but the winds were so strong that they brought tears to one's eyes and made a steady support for binoculars completely out of the question. Thus we about-turned and investigated the potentialities of the coast on the other side of the road. This was more rewarding but the light was poor and evening was drawing in. Nevertheless, 250 Curlew were seen flying and 11 Bartailed Godwits, 6 Goldeneye, more than 50 Oystercatchers, 6 Ringed Plovers, 50-60 Turnstone and more than 1,000 Starlings were seen amongst other birds. We returned to the cars as the winds were still of gale force; and although it was nearly dark, decided to view some seascapes before returning to, we hoped, a large farmhouse supper. South Stack lighthouse did not disappoint us (OS106, GR201823). The wind was so strong that one had great difficulty in descending the steps on the path towards it and were buffeted mercilessly as we turned the zig-zag corners down the steep rocky slope. One could not hear oneself speak with the thundering waves and flapping clothing: the only moving thing at this time was the slowly circling light of the lighthouse as it hit the cliff above us. Mrs. Astley did not disappoint us: two helpings each of her apple pie and a good fire afterwards made us all feel at peace with the world.

Sunday saw us working south towards home but we stopped off at Newborough Warren (OS106, GR410641) on the way. Reg. Arthur was the warden here and we chatted with him for a short while. He said that there had been Richard's Pipits around but, needless to say, even the keenest pair of eyes did not locate them. Newborough Warren, a Nature Conservancy Reserve, has many sand dunes with Forestry Commission plantations bordering it in the south west. A walk westwards along the shore of Gwddw Llanddwyn Bay at low tide brings one out on to the island of Llanddwyn (OS 106, GR625320). The waves still thundered on the west of the island but the land-mass afforded shelter for sea birds on its eastern shore. A Great Northern Diver, with its beautiful black and white markings and heavy bill, was "marked" for a considerable time as it swam about 20 yards off shore and 2 Slavonian Grebes—clearly displaying their black and white winter markings—dived prodigiously for food below us. Shag and Cormorant were seen resting on the rocks as we moved around the point; Ringed Plover and Turnstone flitted along the sea shore and Snipe and Rock Pipits were flushed from the neighbouring vegetation. 6-8 Redbreasted Merganser were seen flying along the shore in the setting sun as we wended our way back to our loaded cars, ready for a 5.30 p.m. start for home.

Who said initiative was dead? This week-end trip was certainly worthwhile and gave us the encouragement to contemplate more ambitious trips in the future. Viva the B.N.H.S.!

ELAINE FAIREY.

Check List of Birds seen in Anglesey, 22nd-24th November, 1963

Cemlyn Bay. (OS106, GR331935). 23/11/63.

3	Little Grebe.
6	Cormorant.
1	Heron.
100+	Mallard.
300-400	Teal.

250-300	Wigeon.
10-15	Shoveller.
6-8	Scaup.
12-15	Tufted Duck.
20-30	Pochard.
25-30	Goldeneye.
1	Red Breasted Merganser.
3	Mute Swan.
2	Merlin (on journey to Holy Island).
20+	Coot.
8-10	Oystercatcher.
1-2	Ringed Plover.
2	Grey Plover.
20-25	Turnstone.
	Curlew (heard calling).
2-3	Redshank.
7	Purple Sandpiper.
1	Greater Blackbacked Gull.
1	Bluetit.
2	Stonechat.
1	Dunnock.
3	Rock Pipit.
7-8	Greenfinch.
3-4	Reed Bunting.

Holy Island. (OS106, GR798285-GR811295). 23/11/63.

3	Great Crested Grebe.
2	Cormorant.
1	Heron.
1	Mute Swan.
6+	Goldeneye.
50+	Oystercatcher.
6	Ringed Plover.
50-60	Turnstone.
250+	Curlew.
11	Bartailed Godwit.
2	Redshank.
4-5	Rock Pipit.
1,000	Starling.
6-8	Chaffinch.

Gwddw Llanddwyn Bay. (OS106, GR 625320). 24/11/63.

1	Great Northern Diver.
2	Horned (Slavonian) Grebe.
1-2	Cormorant.
6-8	Shag.
100+	Wigeon.
11	Common Scoter (flying).
6-8	Red Breasted Merganser (flying).
7	Oystercatcher.
2	Ringed Plover.
20-30	Turnstone.
3	Snipe.
1	Redshank.
1	Mistle Thrush.
1	Bluetit.
4-5	Rock Pipit.

COMMON TERNS AT WYBOSTON (1963-1964)

By P. SMITH

1963

The birds first appeared in June; there were two and they appeared very aggressive, calling viciously and diving down on to people with no apparent fear, coming within inches of the body. Everyone thought of them breeding as a pair, but no one thought it would really happen. The birds stayed through June into July, and even into August, always in the same area, and always with the same aggressive action against intruders.

On the 31st of August I was sitting out near the Terns watching them dive, hover and screech, when I saw three juvenile Terns huddled together on one of the islands. I took detailed notes: nearly as big as the adult birds, they still had brown on their bodies, and their bills showed no red at all; they were making very weak attempts at flying. The parents were now going frantic, nearly hitting me with their dives; I retreated as I did not want to upset them, or get hit.

The following day I went out with Nick Dymond and Pete Kitchener and we saw them again. J. N. Dymond submitted the record to "British Birds", and it was accepted by the Bedfordshire Natural History Society.

1964

The first birds to arrive came on 3rd May; they were obviously a pair, as they were actually mating on one of the islands.

10th May: The pair of birds again on the same island as last week. The birds were seen mating again, in great detail: The male fluttered on to the female's back, caressing and bill-touching took place, with intermittent mating, the male staying on the female's back. The female then stretched her tail and wings, and flew two yards to join a Little Ringed Plover which was near; neither of the species showing aggression.

14th May: An evening visit. The pair of Terns came to meet us when we were within 200 yards of the supposed nesting area. They both acted with fierce aggression, screeching loudly, showing fantastic aerobatics, twisting and turning, with extensive use of the tail.

24th May: Visit in the afternoon. Again met with fierce aggression from both birds, screeching and hovering overhead, diving and twisting. No nest found so far. Just as we were leaving, three Black Terns arrived and met a fierce attack from the Common Terns who chased, screeched and 'dive-bombed' them. The Black Terns stayed about 10 minutes, then flew high in the sky and disappeared.

31st May: Visited in the afternoon, which was hot and sunny. Pair still present and met with the usual vicious attack. Moved round into a place where they could not see me, hoping they would settle down and go to a nest, if there was one. After about five minutes one bird alighted on a small flat island covered in dock. (I presumed this to be the female). As the other bird circled round and eventually alighted on a peak of an island quite near the flat island (I presumed this to be the male, as it was a good look-out point). When the birds were disturbed the "presumed male" always got up first into attack and would be joined by the presumed female after a few moments: they always went back to the same island. As there is no way of telling male from female in the field, I could only presume the sexes by observation. I did not look for a nest on the island as I did not want to disturb the birds too long.

14th June: Visited on dry afternoon. First saw one of the Terns hunting for fish over one of the lakes. As we approached the breeding

area it followed us high in the sky. We were about twenty yards from the island when the other Tern flew up (assumed female) to join her mate. They both made fierce attacks on us. The male bird was seen chasing a heron from his territory; the heron was too big, and obviously had not the skill in aerobatics of the Tern. The Tern was then in turn chased by a Little Ringed Plover. It was not possible to see any eggs on the island where the female had come up from as there were docks growing on it. As we walked round the lake, the female went back to the island and the male kept watch by sitting on the electricity wires.

26th July: This was the first visit for six weeks, and we met with three young Common Terns in flying stage being fed and petted by the parents. The black cap was not complete, and white showed on the forehead. There was still brown down on the neck and wings, but they were completely white underneath. The tail streamers had not fully grown yet and were considerably shorter than the tail. They had dark shoulders and the bill was dull black. In relation to the voice of the Common Tern, four calls were heard over the breeding season, a long grating kree-rr, also kirri-kirri; both these sounded like swearing sounds. Also a chattering kikiki, and a single ki note.

Altogether the Terns have bred much earlier this year, as the young last year at this stage of plumage were in the first week of September. This is probably because the Terns arrived much earlier this year (3rd May). Last year they did not arrive until well into June. The young were heard to make weak piping notes for food.

9th August: Two adults present, no young left, the adults appeared very quiet.

15th August: 1 or 2 adults present, flying up and down the river.

22nd August: No Terns left at all and not seen again.

AN INVESTIGATION ON SPORES IN THE AIR

BY T. P. WHIFFIN

This was an attempt to find some of the factors which affect the number of spores in the air, and their fall-out from the air. There is much organic matter floating in the air, including pollen grains which have been much studied as they are connected with hay-fever. This experiment was only on bacterial and fungal spores.

These spores are very small, and can only be seen with a powerful microscope. There are two methods by which their numbers in the air can be studied. The first is to draw air across a sticky plate; the spores will adhere to this, and can be counted with the use of a microscope. The second method is to allow the spores to fall on to a sterile culture plate, to germinate and to grow, and then to count the number of bacterial and fungal colonies on the plate. This second method was used, as it has the advantages of being easy to set up, requiring little equipment, and being simple to repeat; it has the disadvantage of not quantitatively measuring the air spora, but rather the "spore fall-out" on to the culture plate, and from that giving indications of the quantitative aspect. If this is borne in mind when analysing the results, then it should not prove to be too great a disadvantage.

Both the culture jelly and the petri dishes in which it was placed have to be sterilised before the experiment is conducted, so that it is certain that the only spores on the culture are those which fell on to it during the

experiment. Both bacterial and fungal spores can be very resistant, and comparatively high temperatures have to be used for sterilisation. The glass petri dishes were heated in a dry heat oven until the temperature had been at over 160 degrees Centigrade for more than twenty minutes. The culture jelly consists of a nutrient dissolved in water, with a reagent added to solidify the solution as a jelly. Gelatin is sometimes used, but more usually agar-agar. In this experiment, agar-agar was used, and the nutrient was "Oxo" cubes; the quantities were 2 grams of agar-agar and $1\frac{1}{2}$ grams of "Oxo" for every 100 mls. of water. This is prepared by heating the water and dissolving the agar-agar and "Oxo" in it, and then sterilised by boiling for twenty minutes. It is then poured quickly into the sterilised petri dishes, the lid placed on, and the culture jelly allowed to set. Petri dishes are designed so that, when the lid is on, air can reach the culture jelly but any spores in the air cannot.

In the experiment, the lid of a petri dish was taken off, thus exposing the culture jelly, for one hour and the prevailing weather conditions were noted. The lid was then replaced, and any spores on the culture plate were allowed to germinate; after a few days the number of colonies was counted. The number of spores germinating was assumed to be equal to, or at least proportional to, the number which had fallen on to the culture plate when it was exposed during the experiment, and this latter number was assumed to represent the total number of spores in the air at the time that the culture plate was exposed. The results were then treated in a statistical manner. The main results of the experiment are given below.

BACTERIA

The number of bacterial spores on the culture plate was never correlated with either the air or the soil temperature. Some conclusions, however, were drawn. It seemed that bacterial spores must be very light, and are affected by many factors of which temperature was only one. Throughout the experiment, the number of bacterial spores was very much more variable than the number of fungal spores. This suggested that they were more affected by meteorological conditions. It could be speculated that, in so far as temperature was involved, the number of bacterial spores falling on to a culture plate was directly proportional to the temperature of the air a few hours previous to the exposure of the plate.

FUNGI

It was found that very often the number of fungal spores on the culture plate was correlated with both the air temperature and the soil temperature. The number of fungal spores was lower and less variable than the number of bacterial spores. This could be due to fungal spores being heavier than bacterial spores; also it could be due to their dispersal being more localised, and not so dependent on being carried high into the atmosphere. Thus, either way, they would not be so affected by meteorological conditions. It was found that the number of fungal spores in the air was correlated with the air temperature a few hours previous to the experiment but that the number of spores falling on to the culture plate was correlated with the air temperature at the time of the experiment. The number of fungal spores in the air was found to be very dependent on temperature, whereas the number of bacterial spores was very much more affected by other meteorological conditions such as wind and rain. The results suggested a possibility of there being two types of fungal spore dispersal in the air; namely a local dispersal in the lower layers of the air, and a more widespread dispersal in the higher layers.

ORNITHOLOGICAL IMPRESSIONS OF ANDORRA

By P. J. WILKINSON

Andorra is a small, independent country situated high in the Eastern Pyrenees on the Franco-Spanish border: the country is formed by one main valley with several subsidiaries, and thrives on tourists particularly attracted by its relative freedom from purchase taxes. The valleys are well watered, and are green to a considerable height before becoming bare rock—a great contrast to the brown sierras further south in Spain.

It was here that we spent just over a week at the beginning of September, 1964, at a little village—Encamp—a few miles up the main valley from the capital—Andorra itself. I myself had just come from three weeks watching birds around Zaragoza and was particularly struck by the contrast—the greenness of the valleys, the water and the relative abundance of some species that we had hardly seen at all in Spain.

In a week we could scarcely do justice to the bird-life of the area and our notes are mainly from the small area of fields and woods around the village itself, though we did spend one day much higher in the mountains. Such heights present little obstacle to birds and quite a number of migrants were seen actually passing over. The most spectacular sight was undoubtedly just over the border in France and Spain: as we arrived and left, Swallows, and to a lesser extent House Martins, were pouring south over the passes and down the valley. In Andorra itself, House Martins were common, but they may all have been local birds, and we saw only a few Swallows. Among other migrants, a few Swifts and Wood Pigeons headed resolutely south, there being little to attract them to stay. Many of the smaller migrants, however, with Africa still a good distance away, were resting and feeding in the fields and hedges before the next stage in their flight. Whinchats, Redstarts, and Pied Flycatchers were obliging and easy to watch, but the warblers were in general much more skulking: we saw mostly Blackcaps, Garden Warblers, Whitethroats and Chiffchaffs. A few Nightingales gave us brief glimpses, but we probably overlooked rather more. Tree Pipits were elusive, mostly revealing their presence by calling as they flew overhead.

The birds of prey were rather disappointing, and it does indeed seem that they are decreasing throughout Europe. In Andorra itself we saw Golden Eagle, Buzzard, Goshawk and Kestrel in very small numbers: the most impressive sight was a party of seven Bonelli's Eagles flying south along a ridge one morning. The only other party of raptors that we saw was one of nine Honey Buzzards also heading south just inside the French border, along the same route as the Swallows. Ten days, however, are hardly long enough to gain any real impression of these often elusive species, and if we had spent longer in the mountains, we might well have had more luck.

On the one day that we did venture high into the mountains, we were rewarded with three very tame Citril Finches just above the tree line—the adults a most pleasant lime green, but the young much more drab and nondescript. Among the crags at the top, we were enthralled by the wild cries and aerial tumblings of Choughs and Ravens. We did not, however, usually have to venture far to see exciting birds: in the village itself there were Black Redstarts, and in the fields and woods Blackbirds and Chaffinches were abundant. By the stream we saw Dippers and Grey Wagtails, Stonechats and Cirl Buntings in the fields, Rock Buntings—often rather wary—in the rougher ground. In the woods there were a few Crossbills and wandering parties of tits—including a number of Crested. On neighbouring cliffs there were several colonies of Crag Martins—at

close range their underparts a most striking brick pink. The most colourful bird of all, however, was without doubt the Rock Thrush, a superb mixture of orange and blue, quite eclipsing the uniform but handsome Blue Rock Thrush. By contrast, a single Great Grey Shrike stood out for the sheer elegance and simplicity of its colours—a species I, at least, have never tired of watching.

Ten days—alas—is all too short a time to spend in such a country, and we were only able to gain the merest impression of its bird-life at this time of year. Some of the birds we saw will have been resident, but many were certainly on migration, and the birds one sees can vary in a very short space of time. Andorra is a remarkable country with its language, people, scenery, and traditions, and is well worth savouring. Its bird-life at least should disappoint no-one.

MOLLUSCA AT FLITWICK MOOR

BY BERNARD VERDCOURT

On Sunday, 15th August, 1965, the Conchological Society of Great Britain and Ireland held a field meeting at Flitwick Moor led by B. Verdcourt. A search was made in the three fields bordering the Flitwick-Greenfield road which are covered with very coarse vegetation dominated by *Filipendula ulmaria*, with *Angelica sylvestris*, *Cirsium palustre* and a great variety of other plants. The moor seems considerably drier than I remember it 15-20 years ago. Other places searched included rough nettle patches and beds of *Glyceria maxima* bordering patches of alder. The stream near the former mill pool was investigated but practically every shell found there was old and long dead. The wooded area near The Folly yielded very little but some molluscs were obtained from the *Typha* beds which have covered recent peat workings. Altogether 40 species were obtained which is a fair number for an area not very favourable for molluscs from a calcium point of view.

†**Viviparus contectus* (Mill.). Dead shells near former mill pool.

†**Valvata piscinalis* (Müll.). Dead shells with latter.

Potamopyrgus jenkinsi (E.A.Sm.). Dead shells with latter

Bithynia tentaculata (L.). Dead shells with latter.

Carychium minimum Müll. At roots in rough meadows.

†**Lymnaea palustris* (Müll.). *Glyceria* beds.

L. stagnalis (L.). Dead shells near former mill pool.

L. pereger (Müll.). Still frequent in all the streams.

Planorbis planorbis (L.). Very old shells near former mill pool.

P. vortex (L.). *Typha* beds near recent peat workings.

P. albus Müll. Old shells near former mill pool.

P. contortus (L.). Recent shells with last.

Succinea putris (L.). As usual the dominant species all over the rough meadows.

Cochlicopa lubrica (Müll.). Common in the rough meadows.

Vertigo antivertigo (Drap.). Frequent in the rough meadows but quite common in *Glyceria* patches.

V. substriata Jeffr. Rare on *Angelica* stems, etc. in rough meadows.

†**V. pygmaea* (Drap.). Rare with last.

Clausilia bidentata (Strom). Common in some parts of the rough meadows with nettles, etc.

Helix hortensis Müll. Not uncommon with last, including var. *fuscoblabris* Kreglinger.

Hygromia striolata (Pfr.). Common in parts of the rough meadows particularly in nettle patches.

- †**Hygromia liberta* (Westerlund). Frequent in rough meadows.
Hygromia hispida (L.). In nettle patches.
 (Note: A sample of the material under the two last names was sent to Dr. L. Forcart who referred it to *Trichia concinna* (Jeffer).)
Monacha cantiana (Mont.). With last.
 **Punctum pygmaeum* (Drap.). Apparently rather uncommon in the rough meadows.
Discus rotundatus (Müll.). Frequent.
 †**Arion intermedius* (Normand). Common in rough meadows.
 **Arion circumscriptus* Johnston¹. One found in rough meadow.
 **Euconulus fulvus* (Müll.). Common in rough meadows.
Vitrea crystallina (Müll.). After *Succinea putris* probably the commonest snail on the moor but not in the northern wooded area.
 † *Oxychilus cellarius* (Müll.). In nettle patches in rough meadows.
 **O. helveticus* (Blum). In nettle patches at edge of moor.
Retinella radiatula (Alder).² Frequent in rough meadows.
 **R. pura* (Alder).³ Rare with latter.
R. nitidula (Drap.).⁴ Uncommon in rough meadows.
 **Zonitoides nitidus* (Müll.). In rough meadows but particularly common in *Glyceria* patches and Alder swamp.
 **Vitrina pellucida* (Müll.). Not common in rough meadows.
Agriolimax reticulatus (Müll.). Rough meadows.
 †**A. laevis* (Müll.). Common in rough meadows.
 †**Sphaerium corneum* (L.). Shells near former mill pool.
 †**Pisidium amnicum* (Müll.). Shells near former mill pool.

Species marked * in the above list are new to the area of the moor. Previous lists for the area will be found in Bedf. Nat. 5: 16-17 (1950) (where map reference given as 495,593 should read 495,543) and Bedf. Nat. 17: 27 (1963).

Species marked † are new to the 10 kilometre square in which the moor is situated. The total number of molluscs recorded from the moor area is now 49. It was gratifying to be able to add 16 species during one meeting.

I have been conservative with names in this list. More accurate but lesser-known names are as follows:

- ¹ *Arion fasciatus* Nilsson.
- ² *Nesovitrea hammonis* (Ström).
- ³ *Aegopinella pura* (Alder).
- ⁴ *Aegopinella nitidula* (Drap.).

Southill Revisited

BY BRUCE CAMPBELL

The story of a second generation's attempt to equal the birds-nesting feat of J. Steele Elliott and Ronald Campbell at Southill Park on June 4th, 1903, was told in a previous number of this Journal (No. 18, pp. 10-14), when I expressed the hope that we might be allowed another try to reach their total, the occupied nests of 27 species; in 1963, after a decimating winter, we got to 26. June 1st, 1965, saw the same team, Dennis Elliott, James Ferguson-Lees and myself, en route once more for Southill Park on a dull but promising morning.

We reached Sandstone Lodge at 9.23 a.m. and had time to find one or two empty nests in the clumps of elm sucker shoots, before Mr Norris the head-keeper arrived to lead us to the boathouse. Here Mr Wakelin displayed the trim little coracle which Miss Roden from the estate office had kindly agreed to lend us. Before leaving, Mr Norris showed us a Blackcap's nest from which the brood had just flown: slung near the end of a holly branch about a yard from the ground, it still looked as good as new.

Mr Wakelin gave Dennis an ailing Swift—a number were hawking low over the lake—which we put in the car, but found it dead by lunchtime. A post-mortem at the University Museum, Oxford, showed that its digestive tract was empty below the stomach, though there was a little mush with one or two recognisable insect legs in the lower gut; the pectoral muscles were somewhat shrunken.

As in 1963, our first score was a House Sparrow, with 2 eggs, in the boathouse, but there were no Swallows or Blue Tits this time. James and I gingerly embarked in the coracle while Dennis worked round the east end of the lake. After a slightly precarious voyage, we nosed into a small reed-bed on the north side and James landed, finding our first Reed Warbler's nest, but with no eggs. I explored by boat and almost edged it into a Great Crested Grebe's nest with 4 covered eggs, a heartening start. The bed yielded two Coot's nests with eggs and four empty Reed Warbler's nests. On shore, a big bramble bush held a Bullfinch's nest as in 1963, while a Moorhen came off 10 eggs in a clump of hemp agrimony.

Working back to meet Dennis, I found a Dunnock with 5 eggs in low brambles under a tree canopy; this area later produced nests of Chiffchaff and Blackcap in similar sites and our first Song Thrush, 11 feet up in the epicormic shoots of an oak. Dennis had added nests of Woodpigeon (our only occupied one) and Greenfinch to the list, both in the basal shoots of lime trees, and showed us an attractive Wren's nest, ready for eggs, in ivy on a beech; in another, with a split trunk, he had found a Great Tit's nest in which the eggs could be counted, though the bird soon returned to sit and "spit" at us. A Nuthatch was calling high in the beeches, but we could not locate its hole and had to be content with a Starling feeding young 35 feet up.

The lake here is near the public road, bounded on the park side by a holly hedge of moderate thickness. A stretch of about a hundred yards gave us, as well as the hatched-off "bottle" of a Long-tailed Tit, occupied nests of Wren, Dunnock, Bullfinch, Chaffinch, Linnet and Blackbird.

We now divided our forces again, Dennis working anti-clockwise round the lake, while James and I made for the island. Our visit

proved much more rewarding than in 1963 ; besides 13 Heron's nests (of which four certainly still held young), we found five Mallard's nests (one deserted), three of Coot, three of Moorhen (one with chicks still in it), a Blackbird's nest with 4 eggs, another " used " Long-tailed Tit's nest, and a Spotted Flycatcher's ready for eggs in an ivied ash : the amount of poplar down used made it look quite white. There were also fledged Song Thrushes about. Just to show what sort of day it was : when James dropped his valuable lighter, we found it again in a few minutes, in spite of brambles, dead leaves and other debris of vegetation.

On to the big reed-bed at the south-west end. There were several Mallard drakes about, a pair of Shoveler was seen twice, and four drakes and a pair of Tufted Duck led us to hope we might find a nest that had beaten us last time. The Mute Swans, which we had passed on the lake with three cygnets, had obligingly left an unhatched egg in their nest for us to score. Reed Warblers sang all round and we found six more nests, but only two had eggs. I came on a Mallard duck evidently with young and flushed a Tufted Duck off 12 eggs in nettles and reeds by one of the feeder streams. I then paddled out into the water bistort area, which had only a Coot's platform, while James, wading deeply, added a Coot's nest with 6 eggs, a dead Grebe and what looked like an old nest, and put up a very dark-plumaged " Mallard " with a bright yellow bill ; a white Call duck was also seen several times.

The route back to the boathouse along the small reed and sedge beds brought in three more Coot's and a Moorhen's nest with eggs, two more Reed Warbler's nests each with 4 eggs and a tricky moment for me in the coracle when the cob Swan swam up in panoply. James, under cover, put a Turtle Dove off its clutch of two on a horizontal branch five feet above the water. Dennis had also flushed a Turtle Dove, but off an empty nest ; he showed us two Song Thrush nests, one with c/5, the other with c/4 perched on the top of a hedge, and a deserted Pheasant's nest by the lake with 12 eggs. We lunched from 2.0 to 2.45 p.m., sitting in the sun, for it was now a fine day, and seeing a Pied Wagtail fly to feed a fledgling on the bank, the only Wagtails we saw all day.

The lunch score stood at 24 species with occupied nests, nearly twice the total at lunch in 1963, so we were in a strong position. We decided it would be better not to diffuse our effort over the whole park but to concentrate on a likely area, the woodland belts and hedges along the road to the house down which we had come. So I drove towards the church, parked and walked back to meet Dennis and James. Besides nests of birds already on our list (these included a House Sparrow which had built in an old Blackbird's nest in a barn visited by James), this manoeuvre produced

a Stock Dove with two eggs on an old drey 23 feet up an ivied tree, a Spotted Flycatcher with 2 eggs on the side of a sweet chestnut and a Robin with one fresh egg in one of the clumps of elm shoots which seem attractive to many small birds; James patiently watched a pair of Chiffchaffs back to 6 large young in another clump.

I noticed Treecreepers calling and saw one fly to a fledgling clinging to the bark of an elm. Dennis found the nest, with a fresh faecal sac in it, 5½ feet up the same tree, so we felt we could justifiably count it as a very near miss. James reported a Lesser Whitethroat, and we watched Marsh Tits with fledged young and saw our first Goldfinches of the day.

A muntjak broke out of the woodland belt and loped along a wheel track through a grass field, its tail in the air: the first I had seen since our visit in 1963. Dennis reported several rabbits; we all saw grey squirrels which, with a leveret, a brown rat and a freshly dead mole, made up our mammal list.

The muntjak was certainly not dreamed of at Southill in 1903 nor, probably, was the grey squirrel. Another striking change, we reflected, was in the variety of noises which have invaded the countryside. At least during working hours tractors, aircraft, bird-scarers and a power-saw reminded us of the age of technology. Perhaps in another 60 years science will have conquered noise and our successors will not strain to catch the off-nest calls of Chiffchaff and Willow Warbler.

James now assiduously worked what the Germans would call *finkreich* hedges near the church, reporting occupied nests of Linnet (4), Bullfinch and Greenfinch while I added another Bullfinch with young in a philadelphus bush. Mr Molloy, who had again kindly arranged our visit, passed in his car and we discussed possible Ospreys over the lake in May.

At 5 p.m. we reached the estate office, thanked Miss Roden for the coracle, and, following a hint from Mr Molloy, recorded our 28th species, a Swallow sitting on 5 eggs in a corner of the stable block. There was also a House Martin's nest building under an arch, the only one we saw, though several birds were flying over the lake. So, when Mr Samuel Whitbread joined us, we were able to tell him we were over the 1903 total. Soon afterwards we went further ahead when a Whitethroat flew off a nest with 5 eggs in a mahonia bush in the garden, a blaze of azaleas which even took our minds off the birds for a moment.

In the garden area we added several more nests of species already on our list, watched a pair of Red-legged Partridges working sedately over the cricket field, were puzzled by Goldfinches and failed to hear a Goldcrest in the tall yews where there was one even in 1963.

Returning to the front of the house, I saw a Goldfinch leave the end of a lime bough over the drive: we could see the nest where twigs had grown following lopping of the tip. Borrowing a long pole, we fixed my mirror precariously on the end and the tall James was able to report two eggs before the arrangement disintegrated: our 30th species.

We felt we could now relax and have a look at the Keepers Warren area which we had barely scratched in 1963. After some refreshment by the gate and a talk with the forester, we entered a world of tall pines and bracken with characteristic species: Coal Tit, Goldcrest and Redpoll; also a Great Spotted Woodpecker which we watched in vain as it flitted from pine to pine in the golden light of early evening. Starlings and Tree Sparrows were about, but we could not track the latter to any nesting holes.

Lured by a Tree Pipit's song, we fanned out over an area planted to pine but still with the vegetation of a heath. A second pipit rose on our left and went into song flight. I remarked that males sometimes visited sitting mates, James strode on, gave a few light taps to the swathes of dead bracken and the female fluttered out, off six eggs of the "red Meadow Pipit" type, to give us perhaps the most satisfying moment of the day. The "heath" produced two more Whitethroat's nests and a hatched-off Pheasant, but we could not track the Yellowhammer which was singing, nor was there any sign of Nightjars. We entered the tall trees again to hear young Jackdaws calling from a hole in a pine and to see young Rooks still on a nest, 70 feet up an ash in a small rookery near the forester's house. Along his drive a Bullfinch flew off 4 small young in a box bush and, almost at the gate, a Garden Warbler was sitting in its hammock under the brambles. We spent a little time trying to decide whether a Mistle Thrush with food in its bill had visited an indeterminate nest on a pine branch, and called it a day just before 9 p.m.

In addition to the 35 species whose nests we found, we identified: Shoveler, Red-legged Partridge, Partridge, Lapwing, Cuckoo, Swift, Great Spotted Woodpecker, House Martin (building only), Sand Martin, Carrion Crow, Blue Tit, Coal Tit, Marsh Tit, Long-tailed Tit, Nuthatch, Mistle Thrush, Lesser Whitethroat, Willow Warbler, Goldcrest, Pied Wagtail, Redpoll, Yellowhammer, Reed Bunting and Tree Sparrow. A total of 59, one less than in 1963.

But what a wonderful day it had been, with a total of just over 100 nests of 35 species compared with only 60 nests of 26 species in 1963.

The Fungus Foray, 1965

The fungus foray, led by Dr D. A. Reid, was held on 17th October at Rowney Warren, near Shefford. However, despite the beautiful weather, the meeting was very poorly attended. Less than half of the 16 people present were members of the Society and of these a number left before lunch. Such lack of support makes one wonder if there is sufficient interest in the Society to warrant holding an annual foray.

Rowney Warren comprises areas of both conifer and deciduous trees (chiefly oak, sweet chestnut and some birch) and would normally be expected to yield large numbers of agarics. However, owing to the rather dry conditions such fungi were rather scarce, although this fact is not apparent from the list of species recorded.

One of the most striking species collected was *Stropharia aeruginosa*, recognised by its blue-green, slimy cap with white floccose scales near the margin, its dark brown gills, and its whitish stem covered with cottony scales, and bearing an evanescent, spreading, membranous ring. *Hygrophorus strangulatus*, another colourful species, collected along the grass paths and new to the county, is scarlet or vermilion-orange with minute scurfy-scales toward the centre of the cap. However, this fungus can only be identified with certainty after an examination of its spores which are somewhat constricted.

Pterula gracilis and *Ramariopsis crocea* are two clavarioid fungi which are both new to Bedfordshire. *P. gracilis*, collected on dead stems of *Sarothamnus*, forms very minute, unbranched, white, club-shaped fructifications about 1 cm. high. Microscopically it is distinguished by having a dimittic construction and dextrinoid skeletal hyphae. Furthermore, the basidia are 2-spored. The collection of *R. crocea* on a pine stump is very interesting since the reports of this species from Britain are somewhat doubtful. Thus although this fungus forms small yellow fruitbodies with a rather open type of branching similar to that of *Clavaria corniculata* several of the old Berkeley collections preserved at Kew are said to have been lilac when fresh and probably represent the closely allied *R. pulchella*. Microscopically *R. crocea* is easily distinguished by its minute, spiny, globose spores.

An unusual gathering of a fungus, tentatively referred to *Calyptella* (*Cyphella*) *capula* was found on potato culms. This collection, which consisted of stalked, cupulate fructifications resembling a discomycete, had a distinct ashy-grey colour, less well defined coraloid hairs on the outside of the cup and slightly smaller basidiospores [$6-7.75$ (-8.75) \times $3.5-4.2\mu$ from a spore print] than are typical of this species [($6.2-$) $7.5-9.75$ \times $3.75-4.75\mu$].

Particularly frequent on coniferous debris and pine stumps was *Merulius himantoides*. This species is very closely related to the fungus *M. lacrymans*, which is the cause of "dry rot" in damp buildings, and both have a very similar appearance. However, whereas *M. himantoides* occurs in the open, *M. lacrymans* is restricted to worked timber inside buildings. *Coniophora arida* var. *flavobrunnescens*, new to the county list, is a yellow resupinate fungus found on coniferous wood. It is difficult to recognise in the field but under the microscope it can be seen to have large brown spores very like those of the brown-spored species of *Merulius* which are now usually segregated into the genus *Serpula*. In fact the species of *Serpula* and *Coniophora* are closely related.

Of the Discomycetes the collection of the *Helotium* listed below as "*Helotium* aff. *uliginosum*" was of unusual interest, since although very

similar to typical material of this species in structure, it had considerably smaller spores. The Bedfordshire material, found on a chip of birch wood, consisted of numerous dull brownish-yellow, cupulate fruitbodies.

Finally, mention must be made of the Myxomycetes which were very much in evidence, and had a specialist in this group been present the list of these fungi would undoubtedly have been much longer. However, only the more spectacular fruitings were collected and amongst these was material of *Diderma floriforme* which is new to the county. This is the first Myxomycete to be added to the county list since the days of Lister and Saunders. It is a small, stipitate species with ochraceous-brown sporangia, the wall of which splits into revolute, petal-like lobes exposing the central black spore mass.

In all, a total of 109 species were collected of which 14 are new county records. Members may like to compare the following list of species with that published from the same locality in the Bedfordshire Naturalist for the year 1950.

Amanita citrina [Schaeff.] S. F. Gray; *A. muscaria* (L. ex Fr.) Hook.; *A. rubescens* (Pers. ex Fr.) S. F. Gray; *Amanitopsis vaginata* (Bull. ex Fr.) Roze; *Armillaria mellea* (Vahl ex Fr.) Kummer; *Clitocybe cerrusata* (Fr.) Gillet; *C. geotropa* (Bull. ex St. Amans) Qué!.; *C. nebularis* (Batsch ex Fr.) Kummer; *C. vibecina* (Fr.) Qué!.; *Collybia butyracea* (Bull. ex Fr.) Kummer; **C. cirrhata* (Schum. ex Fr.) Kummer; **C. cookei* (Bres.) J. D. Arnold; *C. maculata* (Alb. & Schw. ex Fr.) Kummer; *C. rancida* (Fr.) Qué!.; **C. tesquorum* (Fr.) Gillet; *Coprinus micaceus* (Bull. ex Fr.) Fr.; *Cortinarius cinnamomeus* (L. ex Fr.) Fr.; *C. semisanguineus* (Fr.) Gillet; **Crepidotus herbarum* (Peck) Sacc.; *C. variabilis* (Pers. ex Fr.) Kummer; *Flammula penetrans* (Fr. ex Fr.) Qué!.; *Galera hypnorum* (Schrank ex Fr.) Kummer; **Hygrophorus strangulatus* Orton; *Hypholoma fasciculare* (Huds. ex Fr.) Kummer; *Inocybe geophylla* (Sow. ex Fr.) Kummer; *I. geophylla* var. *lilacina* Gillet; *Laccaria laccata* (Scop. ex Fr.) Cooke; *L. laccata* var. *amethystina* (Huds. ex Cooke) Rea; *L. proxima* (Boud.) Pat.; *Lactarius glycosmus* (Fr. ex Fr.) Fr.; *L. hepaticus* Plowr. apud Boud.; *L. quietus* (Fr.) Fr.; *L. rufus* (Scop. ex Fr.) Fr.; *L. tabidus* Fr.; *L. turpis* (Weimm.) Fr.; *Lepiota amianthina* (Scop. ex Fr.) Karst.; *L. rhacodes* (Vitt.) Qué!.; *Marasmius acervatus* (Fr.) Karst.; *M. confluens* (Pers. ex Fr.) Karst.; *M. peronatus* (Bolt. ex Fr.) Fr.; *Mycena epipterygia* (Scop. ex Fr.) S. F. Gray; *M. galopus* (Pers. ex Fr.) Kummer; *M. inclinata* (Fr.) Qué!.; **M. oortiana* Hora; *M. sanguinolenta* (Alb. & Schw. ex Fr.) Kummer; *Nolanea stauropora* Bres.; **Panaeolus rickenii* Hora [= *P. acuminatus* sensu auct.]; *Paxillus involutus* (Batsch ex Fr.) Fr.; *Pholiota dura* (Bolt. ex Fr.) Kummer; *P. spectabilis* (Fr.) Kummer; *Pluteus cervinus* (Schaeff. ex Fr.) Kummer; *Russula fragilis* (Pers. ex Fr.) Fr.; *R. ochroleuca* (Pers. ex Secr.) Fr.; *Stropharia aeruginosa* (Curt. ex Fr.) Qué!.; *Tricholoma nudum* (Bull. ex Fr.) Kummer; *T. psammopus* (Kalchbr.) Qué!.; *T. rutilans* (Schaeff. ex Fr.) Kummer.

Boletus badius Fr.; *B. luteus* L. ex Fr.

Fomes annosus (Fr.) Cooke; *Polyporus abietinus* [Dicks.] Fr.; *P. adustus* [Willd.] Fr.; *P. kymatodes* Rostk.; **P. sericeo-mollis* Romell; *P. schweinitzii* Fr.; *Polystictus versicolor* (L. ex Fr.) Fr.; *Poria versipora* (Pers.) Baxter.

Clavaria fusiformis Fr.; *C. inaequalis* sensu Cotton & Wakef.; *C. rugosa* Fr.; **Pterula gracilis* (Berk. & Desm.) Corner; **Ramariopsis crocea* Fr.; *Typhula erythropus* Fr.

Calyprella capula (Holmsk. ex Fr.) Qué!.; **Coniophora arida* var. *flavobrunnescens* Bres.; *C. puteana* (Schum. ex Fr.) Karst.; *Merulius himantioides* Fr.; *M. rufus* Pers. ex Fr.; *Stereum gausapatum* (Fr.) Fr.; *S.*

hirsutum (Willd. ex Fr.) S. F. Gray; *S. sanguinolentum* (Alb. & Schw. ex Fr.) Fr.; *S. sulphuratum* Berk. & Rav.; *Thelephora terrestris* Ehrh. ex Fr.

Lycoperdon nigrescens Pers.; *L. perlatum* Pers.; *Phallus impudicus* [L.] Pers.; *Scleroderma vulgare* [Horn.] Fr.; *Sphaerobolus stellatus* Pers.

Calocera viscosa (Pers. ex Fr.) Fr.; *Dacrymyces deliquescens* (Bull. ex Mérat) Duby.

Auricularia auricula-judae (Bull. ex Fr.) Schroet.

Coryne sarcoides (Jacq. ex Fr.) Tul.; **Helotium* aff. *uliginosum* Fr.; *Hyaloscypha hyalina* (Pers.) Boud.; *Melastiza chateri* (W. G. Smith) Boud.

Diatrype stigma (Hoffm. ex Fr.) Fr.; **Diatrypella quercina* (Pers. ex Fr.) Cooke; *Hypoxylon coccineum* Bull.; *Nectria cinnabarina* (Tode ex Fr.) Fr.; *Microsphaera alphitoides* Griff. & Maubl.; *Xylaria hypoxylon* (L. ex Fr.) Grev.

Cystopus candidus (Pers. ex Chev.) Lév.

Botrytis cinerea Pers. ex Fr.; *Sepedonium chrysospermum* Fr.

**Diderma floriforme* Pers.; *Didymium difforme* Duby; *D. melanospermum* Macbr.; *D. nigripes* Fr.; *Leocarpus fragilis* Rost.

* New county records.

DEREK A. REID.

LIST OF MEMBERS
of the
BEDFORDSHIRE NATURAL HISTORY SOCIETY

a Associate. *j* Junior Member. *s* Student Member.
c Affiliated Institution.

- Abbis, T. W. J., 17 Bramley Road, Street, Somerset.
Adams, J., 81 Lalleford Road, Luton.
Allen, Mrs M. E., Hazelbank, Newton Blossomville, Beds.
Allen, Mrs R., Turvey Abbey, Beds.
*s*Angell, Miss H., Shenstone Lodge, Ashburnham Road, Bedford.
Apthorpe, Dr R. G., 131 London Road, Luton.
Atterbury, G., 115 Alexandra Avenue, Luton.
Aylwin-Foster, Lt-Col E. W. F., 17 Shaftesbury Avenue, Bedford.
Bates, Miss I. C., 47 Milton Road, Luton.
Bates, P. S., 14 George Street, Dunstable.
Battcock, Miss H. V., Witts End Close, Eversholt, Bletchley.
Beal, H. C., 128 Bromham Road, Bedford.
Beal, Mrs H. M., 128 Bromham Road, Bedford.
Beard, Mr D. W., 7 Shakespeare Road, Luton.
Beard, Mrs E. F., 7 Shakespeare Road, Luton.
*c*Bedford Borough Library, Harpur Street, Bedford.
*c*Bedford High School, Bromham Road, Bedford.
*c*Bedford School Natural History Society, Bedford School, Bedford.
*c*Bedfordshire County Library, 1 The Embankment, Bedford.
Beveridge, Mrs C. M., 7a Newnham Road, Bedford.
*c*Bletchley Park Training College, Bletchley, Bucks.
Bligh, Mrs D. L., Fern Cottage, Cumberland Street, Houghton Regis.
Boddington, D., 13 Pemberley Avenue, Bedford.
Boyde, Dr J. C., 93 Spenser Road, Bedford.
Boyde, Mrs D. M., 93 Spenser Road, Bedford.
*a*Brandon, Miss I., 24 Clapham Road, Bedford.
Brighton, S. G., 45 Sidney Road, Bedford.
*a*Brighton, Mrs G. A., 45 Sidney Road, Bedford.
Brough, Miss H., 20 Roise Court, Bedford.
*j*Butt, M. A., 11 Saxon Crescent, Barton-in-the-Clay.
Chambers, V. H., B.Sc., Ph.D., M.S.B.E., 12 Douglas Road, Harpenden, Herts.
Champkin, W. J., 59 Rosamund Road, Bedford.
Chudleigh-Dorman, H., 38 Poplar Avenue, Bedford.
Clayton, K. A., 2 Crackle Hill Road, Meppershall, Shefford.
Clutton, Miss B. M., 67 Bishopscote Road, Luton.
Coales, W. D., B.Sc., 10 Lancot Avenue, Dunstable.
Cobring, D. J., 10 Summer Street, Leighton Buzzard.
Cocks, S. G., 23 Pegsdon Close, Gooseberry Hill, Luton.
*a*Cocks, Mrs C. L., 23 Pegsdon Close, Gooseberry Hill, Luton.
Cole, Miss E. G., 21 Manor Drive, Kempston.
Collison, Miss P. M., 7 Lodge Avenue, Kempston.
*c*Colworth Natural History Society, Colworth House, Colworth, Sharnbrook.
Cooper, Miss J. M., The Forge, 63a Main Road, Biddenham.
Copeland, Mrs N. M., 135 Cardington Road, Bedford.
Craigie-Halkett, Mrs V. M., 24 Shakespeare Road, Bedford.
*a*Cranfield, Miss A., 97 Ashburnham Road, Bedford.
*s*Crouch, G. A., 62 Stancliffe Road, Bedford.
Crummie, Mrs M. J., 1 Windmill Hill, Biddenham, Bedford.

- Darbin, G. L. A., 20 Culworth Close, Caddington, Luton.
 Dart, Miss G. M., 3 New Road, Bromham, Bedford.
 Datlen, J., 5 Chequers Cottages, Whipsnade, Dunstable.
 Davies, Miss E. M., 62 Gladstone Street, Bedford.
 Day, Miss E. M., B.E.M., 14 Spenser Road, Bedford.
 Day, Miss G. H., Randell House, Hawley, Camberley, Hants. (Hon. Life Member).
 Dickinson, Miss S. B., 97 Bromham Road, Bedford.
 Dickson, Miss W. E., 29 The Embankment, Bedford.
 Dony, J. G., Ph.D., 9 Stanton Road, Luton.
 Durant, W., 187 Hurst Grove, Bedford.
 αDurant, Mrs A. J., 187 Hurst Grove, Bedford.
 Dymond, J. M., 91 Putnoe Lane, Bedford.
 αDymond, Mrs M. E., 91 Putnoe Lane, Bedford.
 Dymond, J. N., 91 Putnoe Lane, Bedford.
 Elliot, D. W., The Cottage, Bury End, Stagsden.
 Evans, Miss M. E., 9 Dynevor Road, Bedford.
 Fairey, Miss E., 284 The Ridgeway, Marshalswick, St. Albans.
 Felce, H. C. M., Sheiloan, Moor End, Bromham.
 Felce, Mrs D. E., Sheiloan, Moor End, Bromham.
 Felce, Miss S. E., Sheiloan, Moor End, Bromham.
 Ferguson-Lees, I. J., 30 St. Leonard's Avenue, Bedford.
 Fisher, J. M. McC., M.A., The Old Rectory, Ashton, Northampton.
 sFouladi, C., 20 Cardington Road, Bedford.
 Franghiadi, G. P., Mount Pleasant, Heath and Reach, Leighton Buzzard.
 sFranklin, C. J., 10 Foster Road, Kempston.
 Franklin, H. C., 14 Plummers Lane, Haynes.
 sFreeman, Miss M. I., 50 Farley Hill, Luton.
 sGai-Larisch, Miss K., 23 Holliwick Road, Dunstable.
 Garratt, Mrs B. E. M., High Chimneys, Battle, Sussex.
 Gatward, W. P., 48 The Park, St. Albans.
 Gell, Miss E. L., 26 Phillpotts Avenue, Bedford.
 Godber, Miss J., M.A., Mill Lane Cottage, Willington.
 Goldstraw, W. G., 100 Putnoe Lane, Bedford.
 Gooch, R. R., 20 Queens Street, Luton.
 Goode, Rev R. H., 22 Parkhouse Road, Minehead, Somerset.
 Goosey, R. G., 50 Chaucer Road, Bedford.
 αGoosey, Mrs L. M., 50 Chaucer Road, Bedford.
 Goudie, Mrs M. E., 57 Limbury Road, Luton.
 Graham, Miss M. D., 37 Lansdowne Road, Bedford.
 Green, Mrs B. J., Pilgrims Cottage, Northwood End, Haynes.
 Greenwood, L., 21 Bull Pond Lane, Dunstable.
 Gribble, F. C., 22 Rickerscote Avenue, Rickerscote, Staffs.
 Gribble, Miss G., 78 Cranleigh Gardens, Luton.
 Guppy, A. W., 22 Poplar Avenue, Bedford.
 sHaggie, S. J., 64 Alamein Avenue, Bedford.
 Hamilton, F. D., 30 Ivel Road, Sandy.
 sHarding, B. D., 42 Woodlands Avenue, Houghton Regis, Dunstable.
 sHarper, G. H., Magdalene College, Cambridge.
 Harte, Dr J. D., 41 Pemberley Avenue, Bedford.
 sHasdell, D., 68 George Street, Bedford.
 Hasdell, T. A., 12 Barnwell Drive, Rushden.
 Haylock, W., 56 Bedford Road, Kempston.
 αHaylock, Mrs E. M., 56 Bedford Road, Kempston.
 Herring, Miss V., 30 Days Lane, Biddenham.

- a*Herring, Miss E., 30 Days Lane, Biddenham.
 Hester, S. J., 44 Coombe Drive, Dunstable.
 Hewison, M. F., 64 Manor Road, Toddington.
 Hoadley, B. J., 14 St. Matthew's Close, South Hornchurch, Essex.
 Holden, Mrs D. E., Cliffe Cottage, Clifton.
 Hopgood, S. D., 152 Birchen Grove, Luton.
 Horne, J. E., 24 Preston Road, Bedford.
 Howard, Miss K. J., 22 St. Alban Road, Bedford.
 Hughes, Miss S. M., 46a De Parys Avenue, Bedford.
 Huitson, Miss A. B., 158 Drove Road, Biggleswade.
 Humphriss, Miss G., 1 Strathmore Court, Strathmore Avenue, Hitchin,
 Herts.
*s*Hupp, Miss J., 21 Potton Road, Everton.
l Hutchinson, Miss E. R. E., St. Mary's Cottage, Oakley, Bedford.

 Jarvis, C. MacKechnie, F.L.S., 19 Sloane Gardens, London, S.W.1.
 Jeffreys, Dr D. M., 65 Chaucer Road, Bedford.
 Jeffreys, Mrs C. N., 65 Chaucer Road, Bedford.
*s*Jeffreys, Miss E. A., 65 Chaucer Road, Bedford.
 Johnson, T. H., 23 Coppice Mead, Stotfold, Hitchin.

 Keens, Mrs H. M., 58 The Avenue, Leagrave, Luton.
 Keens, Miss P., 58 The Avenue, Leagrave, Luton.
 Key, H. A. S., Friary House, Greyfriars, Bedford.
*a*Key, Mrs O. G., Friary House, Greyfriars, Bedford.
*a*Kilby, Mrs M., 24 Blundell Road, Luton.
 King, E. J., City Farm, Colmworth.
 King, Miss E. A., 83 Spenser Road, Bedford.
*s*Kitchener, P. G., 164 Bromham Road, Bedford.
 Knowles, J. P., Bricklayers Arms, Potton.
 Kuhlcke, F. W., Trinity Close, The Crescent, Bedford.

 Lamb, E. C., 21 Potton Road, Everton.
*a*Lamb, Mrs, 21 Potton Road, Everton.
*a*Lechler, Miss L. M. L., 33 De Parys Avenue, Bedford.
*a*Lee, Mrs E., Stopsley Holes Farm, Kings Walden, Hitchin, Herts.
 Leigh, Mrs S. M., 94 Putnoe Lane, Bedford.
 Leston, D., F.R.E.S., F.Z.S., The Cottage, Green End, Renhold.
*c*Letchworth Naturalists Society, 5 Souberie Avenue, Letchworth, Herts.
*s*Lingard, J. D., 18 Sauncey Avenue, Harpenden, Herts.
 Linsell, Mrs N., 55 Claremont Road, Luton.
 Livett, A. J., 34 Ripley Road, Luton.
 Lloyd, Dr F. S., High Chimneys, Battle, Sussex.
*a*Lloyd, Miss E. H., 5 Hurlingham Court, Ranelagh Gdns., London, S.W.6.
 Lovett, J. F., 26 Spenceley Road, Westoning.
 Lucas, E., 20 Clapham Road, Bedford.
 Lucas, Mrs C. M., 20 Clapham Road, Bedford.
*c*Luton Public Library, George Street, Luton.
*c*Luton Public Museum, Wardown Park, Luton.

 Maberley, Miss E. V., 14a Linden Road, Bedford.
 MacNeill, Miss W. M., 4 Rothsay Road, Bedford.
 Manley, Mrs M. E., 8 Beckett Court, Bedford.
 Marshall, D. H., 15 Hartington Street, Bedford.
 Martin, R. G., 20 Shakespeare Road, Bedford.
 Mayhew, Miss E. M., 55 Grange Lane, Bromham.
 Meadows, E. G., 28 Felstead Way, Luton.
 Messer, H. J. M., 59 Brickhill Drive, Bedford.
 Messer, Mrs M., 59 Brickhill Drive, Bedford.

- jMesser, D., 59 Brickhill Drive, Bedford.
 jMesser, Miss J., 59 Brickhill Drive, Bedford.
 Metcalfe, Dr G. A., 63 Kimbolton Road, Bedford.
 Metcalfe, Mrs D. E., 63 Kimbolton Road, Bedford.
 aMickle, Mrs F. M., 3 Cutcliffe Grove, Bedford.
 Millman, G., 101 Brickhill Drive, Bedford.
 Milne-Redhead, E., M.A., 7 Ashley Gardens, Petersham, Richmond,
 Surrey.
 Moore, H. J. E., 75 Phillpotts Avenue, Bedford.
 Morgan, Miss J. B., 61 Ashburnham Road, Luton.
 Morgan, Mrs K., 61 Ashburnham Road, Luton.
 Morris, A. C., Gleniffer, Lucas Lane, Hitchin, Herts.
 Mortlock, C. S., 18 Liscombe Road, Dunstable.
 Moss, G. H. C., 27 Waller Avenue, Luton.

 Neate, Mrs K. M., Redlands, Bromham Road, Biddenham.
 Newman, M. J., 47 Alamein Avenue, Bedford.
 Nicholls, Miss J. M., 14c Lansdowne Road, Bedford.
 Nightingale, B. J., 31 Montague Avenue, Luton.
 sNourish, R., 1 Lea Road, Ampthill.

 Pain, Miss K. A., Moorfield, Carlton.
 Palmer, R., F.R.E.S., Half Acre, Rose Hill, Penzance, Cornwall. (Hon.
 Life Member).
 Parkinson, Mrs P. M., 64 Village Road, Bromham.
 jParkinson, J. J. G., 64 Village Road, Bromham.
 jParkinson, R. W., 64 Village Road, Bromham.
 Payne, C. S., 37 Stuart Road, Kempston.
 Pearce, Theed, Comox, Vancouver Island, B.C., Canada.
 Peet, Mrs E. M., 13 Hatfield Crescent, Bedford.
 Pennell, F. G., 145 Brickhill Drive, Bedford.
 Pentland, A. D., 51 Bushmead Avenue, Bedford.
 Piercy, W. E. K., 9 Dorset Square, London, N.W.1.
 Piercy, Mrs R. M., 9 Dorset Square, London, N.W.1.
 Price, J. A., 360 Beechwood Road, Leagrave, Luton.
 Proom, Miss D. M., 78a High Street, Kempston.
 Pugh, Miss M. R., 2a Campbell Road, Bedford.
 aPurkis, Miss E. J., 391 Dallow Road, Luton.

 sReay, P. J., 19 Acacia Road, Bedford.
 Rees, Miss B., Bedford General Hospital (South Wing), Kempston Road,
 Bedford.
 Reeves, Mrs V., 35 Long Croft Road, Farley Estate, Luton.
 Reid, D., No. 2 Kew Cottage, Royal Botanic Gardens, Kew, Surrey.
 Rix, R. W., 12 Folly Lane, Caravan Park, Caddington, Luton.
 Rodell, S. W., 227 Beechwood Road, Luton.
 Rook, Miss D. A., 5 Stratford Road, Sandy.
 Russell, Mrs M. O., The Dene, Woburn Sands, Bucks.

 Sacree, B. R., 15 Mendip Crescent, Bedford.
 Sewell, Mrs J., 712 Hitchin Road, Luton.
 jSewell, Miss D., 712 Hitchin Road, Luton.
 Sharman, Mrs V. M., 111 Hartington Street, Bedford.
 Sharpe, W. G., The Grove, Church Road, Flitwick.
 Sharrock, J. T. R., 97 Bromham Road, Bedford.
 Sinclair, Mrs F., 23a De Parys Avenue, Bedford.
 Sisley, I. R., 67 Golden Ridgy, Linslade, Leighton Buzzard.
 Smart, Mrs L., 9 Pavenham Road, Oakley.
 sSmart, Miss R., 9 Pavenham Road, Oakley.

- jSmith, B. J., 20 Oxford Road, Breachwood Green, Hitchin.
 Smith, P., 50 Manor Road, Bedford.
 Soper, F. G. R., The Briars, Bromham Park, Bedford.
 aSoper, Mrs D. I., The Briars, Bromham Park, Bedford.
 aSoper, Miss P. M., The Briars, Bromham Park, Bedford.
 Speed, L. A., 36 St. Andrew's Road, Bedford.
 aSpeed, Mrs K. N., 36 St. Andrew's Road, Bedford.
 aSpeed, Miss L. M., 36 St. Andrew's Road, Bedford.
 Spinks, F. W. D., 39 South View, Letchworth, Herts.
 Squires, B. R., 47 Faringdon Road, Luton.
 sStanbridge, D., 238 Crawley Green Road, Luton.
 Steer, Dr C., 43 Holywell Road, Studham.
 jStephenson, R. G. O., 3 Compton Avenue, Luton.
 aStephenson, Mrs, 3 Compton Avenue, Luton.
 Stonebridge, Mrs D. L., 23 Sidney Road, Bedford.

 Tattam, Miss G. M., 23 Kingsbrook Road, Bedford.
 Tebbutt, D. J., 37 St. Cuthbert's Street, Bedford.
 Thompson, Miss M. E., 33 The Grove, Bedford.
 Thompson, B. E., 31 South Drive, Shortstown, Bedford.
 Tod, Miss E. M., 37 Lansdowne Road, Bedford.
 Toms, C. F., 20 Knolls View, Totternhoe, Dunstable.
 aToms, Mrs A. M., 20 Knolls View, Totternhoe, Dunstable.
 Toyer, M. D. C., Sunnymead, Lilley, Luton.
 sTrengrave, P., 26 Windmill Close, Bedford.

 Verdcourt, B., Spring Cottage, Kimbers Lane, Maidenhead, Berks.

 Wade, Mrs H. O., Bryant Cottage, Dean.
 Wadelin, Miss B. E. M., 54 Bower Street, Bedford.
 Wagstaff, R. V. A., 29 Grasmere Avenue, Warden Hill, Luton.
 Walker, Dr R. E., 1a St. Augustine's Road, Bedford.
 aWalker, Mrs D. G., 1a St. Augustine's Road, Bedford.
 sWallace, M., 47 Waller Street, Luton.
 Wallis, Miss J., The Forge, 63a Main Road, Biddenham, Bedford.
 sWaterfall, Miss A. E., 283 Old Bedford Road, Luton.
 Weeden, K. R., 5 Faringdon Road, Luton.
 sWesley, P. D., 36 Linden Road, Bedford.
 West, A., Brook End Farm, Keysoe.
 West, B. B., 39 Station Road, Willington.
 West, Mrs, 39 Station Road, Willington.
 West, K. E., 37 Cardington Road, Bedford.
 sWhiffin, T. P., 28 Durler Avenue, Kempston.
 Wild, Mrs F., 41 Manor Road, Caddington, Luton.
 Wilkinson, Mrs H., 28 Biddenham Turn, Bedford.
 Wilkinson, P. J., 28 Biddenham Turn, Bedford.
 sWilkinson, E. M., 28 Biddenham Turn, Bedford.
 Winder, Mrs D., 5 Bridge End, Bromham.
 Wortley, M. D., 375 New Bedford Road, Luton.
 jWright, D. H., 66 Maulden Road, Flitwick.
 Wright, G. A., 66 Maulden Road, Flitwick.
 Wynn-Williams, J., 9 Rothsay Gardens, Bedford.

 Young, Lt-Col E. P., West Point, Pavenham.

OBITUARY

It is with deep regret that we record the deaths of the following members of the Society during 1964:—

In November, COL. G. A. BATTCKOCK, of Witt's End, Eversholt, and formerly of Stayesmore Manor, Carlton, a member since 1951;

In October, Mr H. KILBY, of Luton, a member since 1961;

In February, SIR FREDERICK MANDER, of Toddington, formerly of Luton, a founder member of the Society and President 1957-58;

In November, Mr T. WALLIS, of Kettering, a member since 1960.

CONDITIONS OF MEMBERSHIP

The Council of the Society shall approve each application for membership, but, subject to this condition, membership shall be granted on payment of the annual subscription, viz :

15s. 0d. Ordinary members (full membership).

£1 minimum. Affiliated institutions (privileges of *one* Ordinary member).

7s. 6d. Associate members (do not receive the Society's Journal).

7s. 6d. Full-time students (full membership).

2s. 6d. Junior members (under sixteen years of age : do not receive the Society's Journal).

Application forms for membership can be obtained from the *Hon. Treasurer*, 91 Putnoe Lane, Bedford.

LIFE MEMBERSHIP

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

SUBSCRIPTIONS

Members are reminded that their subscriptions are due on the 1st January in each year. These should be sent to :

The Honorary Treasurer,

J. M. DYMOND,

91 Putnoe Lane, Bedford.

SETS OF THE JOURNAL

Complete sets of the JOURNAL (Nos. 1-19) are obtainable from the *Hon. Secretary* or *Hon. Editor*, price 40s. Single copies can be bought at 5s. each.