

# The **BEDFORDSHIRE NATURALIST**

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THE  
JOURNAL  
OF THE  
BEDFORDSHIRE  
NATURAL HISTORY SOCIETY

FOR THE YEAR

1969

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No. 24

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THE BEDFORDSHIRE NATURALIST

THE

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OF THE

BEDFORDSHIRE NATURAL HISTORY SOCIETY

EDITED BY J. N. DYMOND

No. 24. 1969

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BEDFORDSHIRE NATURAL HISTORY SOCIETY

1970

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RECORDERS

**BOTANY :**

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

**METEOROLOGY :**

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

**ZOOLOGY :**

*Bees, Wasps and other Hymenoptera :*

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

*Butterflies and Moths :*

B. B. West, 39 Station Road, Willington, Bedford.

*Amphibians, Fishes and Reptiles :*

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

*Birds :* A. J. Livett, 12 Broughton Avenue, Luton.

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

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

## BEDFORDSHIRE NATURAL HISTORY SOCIETY

### RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1969

RECEIPTS				PAYMENTS			
1968		£	£	1968		£	£
152	Cash at Bank and in Hand, 1st January 1969		34	60	Printing, Postages and Stationery		68
	Subscriptions :			171	Bedfordshire Naturalist Journal		108
10	Life Members		—	7	Subscriptions and Donations to other Societies		3
139	For 1969 and earlier		177	9	Hire of Hall and Room		15
15	For 1970		19	5	Sundry Expenses		1
164			196	21	Deficiency on Coach Trip		—
—	Xmas Social		2	27	Cash at Bank, 31st December, 1969		91
—	Donations		2	7	Cash in Hand		15
1	Sale of Journal		2				
(10)	Surplus on Film Shows		65				
£307			£301	£307			£301

J. M. DYMOND, *Honorary Treasurer*

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

BEDFORD.

3rd February, 1970.

THORNTON BAKER & CO..

*Chartered Accounts, Auditors.*

# REPORT OF THE COUNCIL

Nineteen sixty-nine can best be described as a year of consolidation rather than of progress. Although some forty new members joined the Society the increase was partly offset by the deletion from our register of the names of several members whose subscriptions were long overdue. With the help of the increased subscription rate and the proceeds from two very successful film shows we fully recovered from the weak financial position that we were in at the end of 1968.

Several of the field meetings during the year suffered from adverse weather conditions, two being abandoned and the attendance at three others being badly affected; the remainder were reasonably well supported. Indoor meetings were well attended and the outstanding event was undoubtedly the film show held jointly with the Royal Society for the Protection of Birds at Dunstable in October when more than 600 people enjoyed three excellent colour films.

The appointment of Mrs. E. B. Rands as Recorder for Mollusca was particularly gratifying as this position had been vacant for twenty years. Her knowledge and enthusiasm have already aroused considerable interest in this branch of natural history.

The death of Mr. Eric Lucas in June was a great loss to the Society. He had been our Honorary Auditor since the formation of the Society in 1946, and with Mrs. Lucas, had been a regular supporter of our activities.

In September the Council lost the enthusiastic services of Mr. Julian Knowles when he transferred from the headquarters of the R.S.P.B. at Sandy to their Scottish Office in Edinburgh.

With increasing interest and a healthier bank balance the Council is optimistic that real progress will be made in 1970; however, this can only be achieved by the active support and participation of our members. The advent of European Conservation Year presents a challenge to the Society to make a greater impact in Bedfordshire, and its activities in Putnoe Wood are a good beginning. We are heartened by the co-operation and understanding shown by the Bedford Borough Council who are the owners of the wood and we pay tribute to the Society's Scientific sub-committee for their part in what has been achieved. Much work has yet to be done and there will be many opportunities for able-bodied members of the Society to give practical help when the management plan is launched in 1970.

In conclusion the Council takes this opportunity of thanking Mr. and Mrs. Key for inviting us to Friary House for our Bedford meetings.

D. GREEN, *Hon. Secretary.*

## PROCEEDINGS

### INDOOR MEETINGS

SOCIAL EVENING, 2nd January, Bedford. Exhibition of fossils, stuffed animals, bird skulls, photographs and sketches. Transparencies were shown by various members, and W. J. Champkin showed a colour film. Attendance about 40. M.C.: J. M. Dymond.

243rd ORDINARY MEETING, 8th January, Luton. B. D. Harding gave an illustrated talk on his visit to the Camargue and the chairman showed a selection of transparencies. Attendance 12. Chairman : R. V. A. Wagstaff.

244th ORDINARY MEETING, 6th February, Bedford. Film evening : 'The Hungry Fish', 'The Rival World', 'Wind on the Heath', and 'Forest Heritage'. Attendance 50. Chairman : F. G. R. Soper.

245th ORDINARY MEETING, 12th February, Luton. 'The Significance of Bees' by A. R. W. Griffin, N.D.B. Meeting cancelled.

PUBLIC FILM SHOW, 6th March, Luton. Four R.S.P.B. films : 'Operation Osprey', 'After the Torrey Canyon', 'Snowy Owls of Shetland', and 'Sea Swallows'. A capacity house at the Public Library gave an enthusiastic reception to these excellent films. Attendance 250. Chairman : J. P. Knowles.

22nd ANNUAL GENERAL MEETING, 27th March, Bedford. Attendance 46. Chairman : A. W. Guppy. Full report in Journal No. 23.

PUBLIC FILM SHOW, 9th October, Dunstable. A meeting held jointly with the R.S.P.B. at the Queensway Hall where an audience of over 600 saw three newly released R.S.P.B. films : 'Where the Curlew Calls', 'Puffins Come Home', and 'Sea Eagles for Fair Isle'. Chairman : T. Gunton (R.S.P.B.). B.N.H.S. speaker : R. V. A. Wagstaff.

246th ORDINARY MEETING, 23rd October, Bedford. 'Wild Life Photography' by P. E. Merrin, illustrated with colour slides. Attendance 30. Chairman : J. M. Dymond.

247th ORDINARY MEETING, 11th November, Dunstable. 'The Natural History of Cyprus' by T. O. James, followed by a selection of colour slides by E. G. Meadows. Attendance 27. Chairman : A. J. Livett.

248th ORDINARY MEETING, 27th November, Bedford. Film evening : 'The Wild are Free', 'Coral Kingdom', 'Twilight Forest', 'The Sun People', and 'Bee Business'. Chairman : Dr. D. M. Jeffreys.

249th ORDINARY MEETING, 18th December, Bedford. A selection of his own colour films by W. J. Champkin. Attendance 18. Chairman : J. M. Dymond.

## FIELD MEETINGS

SUNDAY, 19th JANUARY. TRING RESERVOIRS. Leader : A. J. Livett. The meeting commenced in fine, sunny weather at Wilstone Reservoir where eight species of wildfowl were seen including 120 Wigeon and five Gadwall. Excellent views were also obtained of two Water Rails, two Kingfishers, Collared Doves and a Great Grey Shrike. After lunch Grey Wagtails were seen near the canal and Jack Snipe on Little Tringford Reservoir. On Marsworth and Startops End Reservoirs there were Shoveler and large flocks of Teal. Attendance 9.

SUNDAY, 27th APRIL. HAYLEY WOOD, CAMBS. Leader : A. W. Guppy. This meeting was arranged to enable members to see the Oxslip (*Primula elatior*) in flower and to observe the effects of various forms of woodland management on its flowering. Attendance 11.

THURSDAY, 8th MAY. STAGSDEN BIRD GARDENS. Leader : F. E. B. Johnson. At the kind invitation of the proprietor, Mr. F. E. B. Johnson, members were shown a most interesting collection of unusual and exotic birds including a wide variety of pheasants. Attendance 17.

SUNDAY, 18th MAY. YELNOW LANE. Leader : L. A. Speed. The weather was thundery and just prior to the meeting an ash tree in the lane had been struck by lightning and was still on fire and blocking the lane. The thinning of trees along the side of the lane probably accounted for the abundance of bluebells and cowslips, and altogether 16 different species of flowering plants were noted. A heavy shower of rain curtailed the meeting. Attendance 7.

SATURDAY, 24th MAY. PUTNOE WOOD. Leader : W. J. Champkin. A mothing evening which had to be abandoned because of heavy rain.

WEDNESDAY, 4th JUNE. STOCKGROVE WOODLANDS. Leader : A. J. Livett. For the evening chorus of birds, but due to adverse weather conditions very little song was heard. Species noted included Woodcock and Tree Pipit. Attendance 13.

SUNDAY, 15th JUNE. NEW FOREST. Coach outing. Leader : Dr. D. M. Jeffreys. Attendance 30.

THURSDAY, 3rd JULY. TINGRITH MANOR. Leader : S. W. Rodell. The heavily wooded surroundings prevented many birds from being seen, but those which were heard included Great Spotted Woodpecker, Blackcap, Redpoll, Spotted Flycatcher and Nightjar. Muntjac, Grey Squirrel and Yellow Waterlily were also noted. Attendance 15.

THURSDAY, 31st JULY. MARKHAM HILLS. Leader : Dr. J. G. Dony. A very successful meeting with ideal weather conditions. The escarpment, now a beech hanger, was grass downland 50 years ago. Hawthorn and beech invasion were pointed out and a cleared area with a rich chalk flora and neighbouring arable land were examined. Attendance 22.

SATURDAY, 2nd AUGUST. FLITWICK MOOR. Leader : W. J. Champkin. A detailed report of this meeting appears on page 8.

SUNDAY, 7th SEPTEMBER. TRING RESERVOIRS. Leader : R. V. A. Wagstaff. The highlight of the day was the variety of waders seen at Tring Sewage Farm. These passage migrants included two Little Ringed Plovers, four Curlew Sandpipers, one Little Stint and one Greenshank. Four Pintail were also present. Attendance 10.

SUNDAY, 5th OCTOBER. FUNGUS FORAY, STOCKGROVE WOODLANDS. Leader : Dr. D. A. Reid. A joint meeting with the British Mycological Society. Attendance 18. A detailed report of this meeting appears on page 7.

SUNDAY, 14th DECEMBER. STEWARTBY CLAY PITS. Leader : B. Squires. This wildfowl count was abandoned after a short time owing to continuous heavy rain. Attendance 12.

## THE FUNGUS FORAY

The foray, led by Dr. D. A. Reid, was held at Stockgrove Woods, Heath and Reach, on Sunday, 5th October; 18 people were present including several members of the British Mycological Society.

Unfortunately the wonderful hot, dry summer and autumn were not conducive to the growth of fungi, and although we had a warm sunny day very few specimens were found. The fact that 81 species were collected gives a false impression of the abundance of fungi, since most were represented by a single fructification. Nevertheless, no fewer than 12 species were added to the County list. Of these the most interesting were undoubtedly *Tyromyces rennyi* — a white resupinate *Poria*-like fungus and *Tubaria trigonophylla* which is a rather nondescript-looking brown-spored agaric. Both fungi are extremely rare.

Reference to the list will show that an unusually large number of species of *Lactarius* and *Russula* were collected and that two of these belonging in the latter genus [*R. parazurea* and *R. versicolor*] were new to the County. *R. parazurea*, which is not uncommon in Britain, produces rather small, bluish-grey or dove-grey pilei with a distinctly pruinose surface and whitish or very pale cream gills; the flesh is mild-tasting and the spore-print a pale cream colour. *R. versicolor*, which has a pale ochre spore-print and a peppery taste especially in the gills, forms small pilei of variable colour, although typically pale with a hint of violet at the edge and a greenish centre. This species, which is found under birch, shows a strong tendency to be tinged yellow at the base of the stipe.

The two species of *Cortinarius* were both new to the County, although not uncommon in the British Isles as a whole. It is very surprising that *C. pseudosalor* has escaped detection in Bedfordshire for so long. It has a sticky brown cap and an equally viscid stem covered below with a violet gluten. It is very similar to *C. elatior* but very much more common; the fructifications are smaller, and the gills edged with lilac. *C. torvus* is characterized by having, in addition to the cortina, a universal veil sheathing the lower part of the bulbous stem which terminates above in an inferior ring.

*Clitocybe ditopus*, another agaric new to the County, occurs in groups under conifers. The fruitbodies have a strong smell of meal when broken and the small pilei and decurrent gills are greyish.

Should readers wish to compare the following list with that obtained in 1955 when the foray was last held at the same locality, they should refer to *The Bedfordshire Naturalist*, No. 10, p. 9. For an explanation of the nomenclature adopted in the report see *The Bedfordshire Naturalist*, No. 23, p. 7.

*Amanita citrina* [Schaeff.] S. F. Gray; *A. citrina* var. *alba* (Gillet) Gilbert; *A. excelsa* (Fr.) Kummer; *A. fulva* [Schaeff.] Secr.; \**A. inaurata* Secr.; *A. muscaria* (L. ex Fr.) Hooker; *A. rubescens* ([Pers.] Fr.) S. F. Gray; *Armillaria mellea* (Vahl ex Fr.) Kummer; *Boletus chrysenteron* Bull. ex St. Amans; *Clitocybe clavipes* (Pers.) Kummer; \**C. ditopus* (Fr. ex Fr.) Gillet; *Collybia erythropus* (Pers. ex Fr.) Kummer; *C. fusipes* (Bull. ex Fr.) Quél.; *C. maculata* (Alb. & Schw. ex Fr.) Kummer; *Coprinus lagopus* (Fr.) Fr.; \**Cortinarius pseudosalor* J. Lange; \**C. torvus* (Fr. ex Fr.) Fr.; *Craterellus cornucopioides* ([L.] Fr.) Pers.; *Decomica physaloides* (Bull. ex Mérat) Karst.; *Hebeloma mesophaeum* (Pers.) Quél.; *Hygrophoropsis aurantiaca* ([Wulf.] Fr.) Maire; *Hypholoma fasciculare* (Huds. ex Fr.) Kummer; \**Inocybe eutheles* (Berk. & Br.) Quél.; *I. fastigiata* (Schaeff. ex Fr.) Quél.; *Laccaria laccata* (Scop. ex Fr.) Cooke;



*Lactarius camphoratus* (Bull. ex Fr.) Fr.; *L. hepaticus* Plowr.; *L. quietus* (Fr.) Fr.; *L. tabidus* Fr.; *L. turpis* (Weinm.) Fr.; *L. vietus* (Fr.) Fr.; *Mycena galericulata* (Scop. ex Fr.) S. F. Gray; *M. galopus* (Pers. ex Fr.) Kummer; *Nolanea cetrata* (Fr. ex Fr.) Kummer; *N. staurospora* Bres.; *Panaeolus campanulatus* (Bull. ex Fr.) Quél.; *Paxillus involutus* (Batsch ex Fr.) Fr.; *Pluteus cervinus* (Schaeff. ex Fr.) Kummer; *Psathyrella hydrophila* (Bull. ex Mérat) Maire; *P. squamosa* (Karst.) Moser; *Russula acrifolia* Romag.; *R. atropurpurea* (Krombh.) Britz.; *R. cyanoxantha* (Schaeff. ex Secr.) Fr.; *R. fellea* (Fr.) Fr.; *R. fragilis* (Pers. ex Fr.) Fr.; *R. laurocerasus* Melzer; *R. mairei* Sing.; *R. nigricans* (Bull. ex Mérat) Fr.; *R. ochroleuca* (Pers. ex Secr.) Fr.; \**R. parazurea* Schaeff.; \**R. versicolor* Schaeff.; *R. vesca* Fr.; *Tricholoma fulvum* (DC. ex Fr.) Sacc.; *Tricholomopsis rutilans* (Schaeff. ex Fr.) Sing.; \**Tubaria trigonophylla* (Lasch) Fayod.

*Coriolus versicolor* (L. ex Fr.) Quél.; *Daedaleopsis confragosa* (Bolt. ex Fr.) Schroet.; *Fistulina hepatica* Schaeff. ex Fr.; *Heterobasidium annosum* (Fr.) Bref.; \**Phellinus ferreus* (Pers.) Bourd. & Galz.; *Piptoporus betulinus* (Bull. ex Fr.) Karst.; *Tyromyces lacteus* (Fr.) Murr.; \**T. rennyi* (Berk. & Br.).

*Botrybasidium subcoronatum* (Höhn. & Litsch.) Donk; *Coniophora puteana* (Schum. ex Fr.) Karst.; \**Cristella candidissima* (Schw.) Donk; *Hymenochaete rubiginosa* (Dicks.) Lév.; *Hyphoderma tenue* (Pat.) Donk; *Stereum gausapatum* (Fr.) Fr.; *S. hirsutum* (Willd. ex Fr.) S. F. Gray. *Lycoperdon perlatum* Pers.; *Scleroderma aurantium* [Linn.] Pers.; *S. verrucosum* Pers.

*Helotium aciculare* Pers.; *H. scutula* (Pers.) Karst.; *Peziza succosa* Berk.; \**Trichophaea woolhopeia* (Cooke & Phillips) Bond.

*Claviceps purpurea* (Fr.) Tul.; *Hypoxylon multiforme* (Fr.) Fr.

*Isaria farinosa* Fr.; *Sepedonium chrysospermum* Fr.

\*=New County Record.

DEREK A. REID.

## MOTH EVENING AT FLITWICK MOOR

This meeting was held at Flitwick Moor on 2nd August 1969, and ten members attended. Although it was a thundery evening, fortunately only light drizzle fell during the meeting, and the mercury-vapour trap, which was run in the centre of the clearing on the site of the old peat tip, attracted 46 species of Macro moths. An unexpected additional capture which interested the members was a Great Water Beetle, *Dytiscus marginalis*; it was identified as a female by its deeply-fluted wing-covers.

Dr. Chambers aroused further interest with a larva of the Alder Dagger, *Apatele almi* L., which he had found at Eversholt that day. Because of its rarity the larva was returned next day to the tree on which it was found, Gean, *Prunus avium*, where a second larva was then discovered: it is apparently exceptional to find even one larva of this species in a year.

The numbers of the following list refer to the New Label List of British Macrolepidoptera by I. R. P. Heslop, 1961.

108	<i>Pheosia tremula</i> (Clerck.)	Greater Swallow Prominent
110	<i>Notodonta ziczac</i> (Linn.)	Pebble Prominent
111	<i>Notodonta dromedarius</i> (Linn.)	Iron Prominent
139	<i>Euproctis similis</i> (Fuessl.)	Gold Tail
154	<i>Philudoria potatoria</i> (Linn.)	Drinker
164	<i>Drepana lacertinaria</i> (Linn.)	Scalloped Hook Tip
180	<i>Eilema lurideola</i> (Zinck.)	Common Footman
197	<i>Phragmatobia fuliginosa</i> (Linn.)	Ruby Tiger
282	<i>Agrotis puta</i> (Hübner)	Shuttle Shaped Dart
285	<i>Agrotis exclamationis</i> (Linn.)	Heart and Dart
304	<i>Ochropleura plecta</i> (Linn.)	Flame Shoulder
312	<i>Amathes depuncta</i> (Linn.)	Plain Clay
315	<i>Amathes triangulum</i> (Hübner)	Double Square Spot
327	<i>Euschesis comes</i> (Hübner)	Lesser Yellow Underwing
328	<i>Euschesis orbona</i> (Hübner)	Lunar Yellow Underwing
329	<i>Euschesis janthina</i> (Schiff.)	Lesser Bordered Yellow Underwing
330	<i>Euschesis interjecta</i> (Hübner)	Least Yellow Underwing
331	<i>Noctua pronuba</i> (Linn.)	Common Yellow Underwing
345	<i>Mamestra brassicae</i> (Linn.)	Cabbage Dot
346	<i>Melanchra persicariae</i> (Linn.)	White Dot
351	<i>Diataraxia oleracea</i> (Linn.)	Bright Line Brown Eye
378	<i>Cerapteryx graminis</i> (Linn.)	Antler
393	<i>Leucania pallens</i> (Linn.)	Common Wainscot
444	<i>Apamea monoglypha</i> (Hübner)	Dark Arches
456	<i>Apamea secalis</i> (Linn.)	Common Rustic
462	<i>Procus strigilis</i> (Clerck.)	Marbled Minor
496	<i>Cosmia trapezina</i> (Linn.)	Dun Bar
502	<i>Amphipyra pyramidea</i> (Linn.)	Copper Underwing
512	<i>Apatele leporina</i> (Linn.)	Miller
635	<i>Plusia gamma</i> (Linn.)	Common Silver Y
639	<i>Unca tripartita</i> (Hübner)	Light Spectacle
653	<i>Hypena proboscidalis</i> (Linn.)	Common Snout
681	<i>Calothysanis amata</i> (Linn.)	Large Blood Vein
725	<i>Xanthorhoe ferrugata</i> (Clerck.)	Dark Twin Spot Carpet
726	<i>Xanthorhoe spadicearia</i> (Schiff.)	Red Twin Spot Carpet
747	<i>Perizoma alchemillata</i> (Linn.)	Small Rivulet
765	<i>Ecliptopera silaceata</i> (Schiff.)	Small Phoenix
784	<i>Hydriomena furcata</i> (Thunb.)	July Highflyer
795	<i>Epirrhoe alternata</i> (Müll.)	Common Bedstraw Carpet
884	<i>Chloroclystis coronata</i> (Hübner)	V-Pug
891	<i>Lomaspilis marginata</i> (Linn.)	Clouded Border
912	<i>Deuteronomos alniaria</i> (Linn.)	Canary Shouldered Thorn
915	<i>Selenia bilunaria</i> (Esp.)	Early Thorn
923	<i>Opisthograptis luteolata</i> (Linn.)	Sulphur Thorn
935	<i>Biston betularia</i> (Linn.)	Pepper and Salt
946	<i>Ectopis biundularia</i> (Borkh.)	Early Engrailed

W. J. CHAMPKIN.

# REPORTS OF RECORDERS

## BOTANY

I was able this year to spend more time in the field in Bedfordshire than in any year since the Flora was published in 1953, but further additions to the list of native and colonist species to those already accounted for in my paper last year have been few.

Wild Service Tree, *Sorbus torminalis* (L.) Crantz., had surprisingly not been recorded for the County although it is known in most English counties. It was found on the edge of Milton Wood, Woburn Park, and in one of the rides in Maulden Wood. In both places there are planted trees and it is possible that these Wild Service Trees were also planted. Thin-spiked Sedge, *Carex strigosa* Huds., which was recorded in the Flora as very rare, was found to be abundant in Palmer's Scrubs, Milton Bryan, sparingly in both Milton Wood and Kings Wood, Heath and Reach, and locally abundant in Kinghoe Spinney, Eversholt. This plant may have been overlooked earlier; otherwise I am unable to account for its apparent increase. Mr. J. R. Palmer has drawn my attention to a patch of Chinese Mugwort, *Artemisia verlotorum* Lamotte, at Stanbridgeford old station. This has increased in recent years in the London area and it is not surprising that it has arrived in Bedfordshire.

It was not a profitable year for wool aliens. *Amaranthus deflexus* L. and *Erodium stephanium* Willd. were added to the list, the latter by Mr. E. Clement and Mr. B. T. Ryves. Dr. C. E. Hubbard has named a number of wool-alien grasses collected in recent years and new records by Messrs. Clement and Ryves are *Alopecurus antarcticus* Vahl., 1969; *Diplachne muelleri* Benth., 1968; *Echinochloa turneriana* (Domin) Black, 1967; *Parapholis incurva* (L.) C. E. Hubbard, 1969; *Stipa formicarum* Debile, 1968; and *S. juergensii* Hack., 1968. My wife and I added *Danthonia racemosa* R. Br., 1967; *Digitaria ctenanthe* (F. Muell.) Hughes, 1967; *Eleusine tristachya* (Lam.) Lam., 1967; *Eriochloa creba* S. T. Blake, 1967; and *Hordeum brachyantherum* Nevski, 1967. All the records were from Maulden. Dr. Hubbard reports that records previously referred to *Eragrostis mexicana* should now be referred to *E. neomexicana* Vasey. Considering their origin it is not surprising that grasses account for over a third of the wool-alien species.

J. G. DONX.

## METEOROLOGY

The outstanding feature of the year 1969 was its remarkable summer which lasted, with comparatively brief intermissions, from early June to early November, and which was nearly rainless for the final seven weeks of that period.

The first three months of the year were not particularly pleasant; January was a wet month, February was cold with frequent, though light, falls of snow, and March had two periods of cold frosty weather with north-easterly winds.

The first fine spell of the year came at the beginning of April, the 7th and 8th being particularly warm and spring-like, but the rest of the month was cooler and less settled. As in 1967, May was unusually wet, with a good deal of thundery activity in the last three weeks.

The summer really began during the first week of June, and thereafter there were long periods of fine, warm and often cloudless weather, culminating in an October which broke all records for the past two centuries

in its combination of drought, warmth and sunshine. On the day before the arrival of the Arctic cold front, 3rd November, the day maximum temperature still reached the unusual level of 62 deg. F.

The remainder of November was cold and unsettled, with the first snow of the winter on 17th, and more at the end of the month. December was a mainly dull month with cold northerly winds and more outbreaks of snow, mostly light. The year closed with cold easterly weather, the temperature on the last day of the year failing to rise above freezing-point.

Despite the drought in early autumn, the year's rainfall in the north of the county was about average, largely due to the excess in the first five months. In the south, however, the annual total was well below normal and, for once, comparable to that of the Bedford area. October was everywhere the driest on record, with less than one tenth of an inch for the whole month at many places. During the period from 18th September to 3rd November, measurable rain fell on only eight of the forty-seven days and amounted in all to less than one quarter of an inch. The longest continuous drought extended from 3rd to 18th October — a period of sixteen days. By contrast, there were twenty-eight wet days in May, twenty-one of them consecutive.

The heaviest day's rainfall was on 6th May, with 1.04 inches recorded at Cardington; another very wet day was 29th July with 0.90 inches. None of the thunderstorms was responsible for exceptional rainfall, and although snow was more frequent than usual there were no heavy falls during the year. There were some unusually high temperatures during the summer. The hottest day was 16th July, with a maximum of 93 deg. F. in Bedford; other warm days were 10th August (87 deg.) and 23rd July (85 deg.). Perhaps the most remarkable figures were the day maxima of 75 deg. on 9th October and 70 deg. on 21st.

The two coldest days were 10th February and 31st December, on neither of which was freezing-point exceeded. The coldest night was that of 7th-8th February, with a minimum of 14 deg. F. Thirteen degrees of frost were recorded one week later on the night of 14th-15th February.

A. W. GUPPY.

RAINFALL, FOR 1969

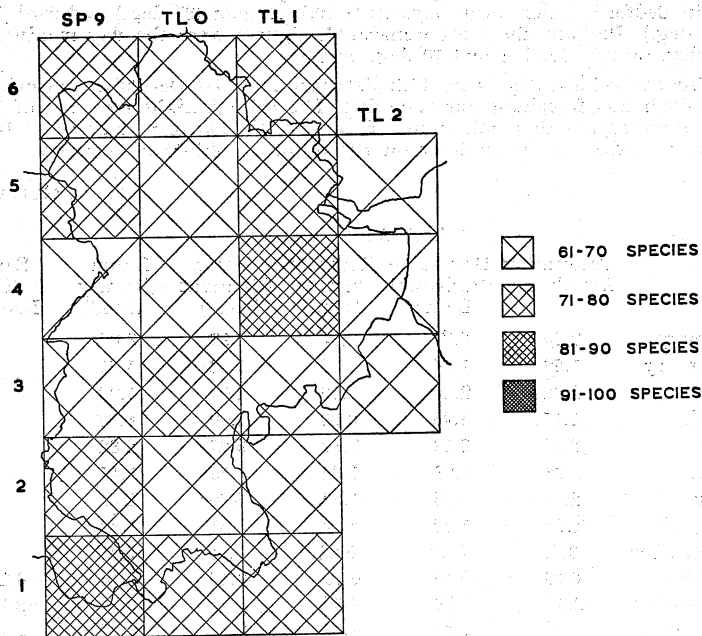
	Cardington Aerodrome	Dunstable (Periwinckle Lane)	Kempston (Stuart Road)	Luton (Crescent Road)	Luton (Runley Wood)	Sandy (The Lodge)
January	2.80	3.71	2.74	2.97	3.03	
February	1.56	1.94	1.93	1.92	1.77	
March	2.02	2.20	2.16	2.00	1.98	
April	1.15	1.45	0.89	1.00	0.97	
May	3.99	3.19	3.82	3.27	2.82	
June	1.66	1.28	1.34	1.15	1.17	
July	2.05	1.96	1.82	2.26	2.35	
August	1.66	1.73	2.28	1.91	1.84	
September	0.37	0.52	0.24	0.35	0.40	
October	0.09	0.19	0.19	0.16	0.14	0.22
November	2.48	1.79	2.46	2.96	2.74	2.13
December	1.88	2.51	2.00	2.40	2.25	2.19
Total	21.71	22.47	21.87	22.35	21.46	
	Cardington	Per L. A. Speed		Kempston	C. S. Payne	
	Dunstable & Luton	Per E. G. Meadows		Sandy	Per J. Crudass	

## BIRDS

Nineteen sixty-nine was an unspectacular year for birds in Bedfordshire with less than 150 species being recorded. The seasonal migration movements and other aspects of the year closely followed the national pattern, and where special comment is warranted it has been included in the systematic list.

Field-work for the British Trust for Ornithology's five-year Atlas project continued, and our knowledge of the distribution of the breeding birds in Bedfordshire is becoming more comprehensive. Gaps still remain: in particular, both the owls and the woodpeckers appear to be under-recorded, and all sightings of these species should be reported. The map shows the area with which we, as a county, are concerned, and the four degrees of cross-hatching indicate the total number of species recorded in possible breeding habitat in each 10-kilometre square up to October 1970. A break-down into the three categories of breeding evidence for the two years 1968-1969 is given for each species in the systematic list. For example, the (1-2-12) against Little Grebe means that, respectively, in one square the species has been recorded as present, in another two squares it has been recorded as probably breeding, and in twelve of the remaining eighteen squares breeding has been proved. Where possible, Atlas data that refer to parts of adjacent counties have been so designated.

All records for the 1970 Bird Report should be sent to the Bird Recorder before the end of January 1971, and data received after that date will be held over to the following year.



**Map showing the number of species of birds recorded as present during the breeding season in each 10 km. square in the Bedfordshire area, up to October 1970.**

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Species recorded as present in normal numbers in Bedfordshire, and not included in the text are: **Mute Swan** *Cygnus olor* (0-0-16), **Red-legged Partridge** *Alectoris rufa* (2-3-16), **Partridge** *Perdix perdix* (2-4-15), **Pheasant** *Phasianus colchicus* (0-0-20), **Moorhen** *Gallinula chloropus* (0-0-21), **Herring Gull** *Larus argentatus*, **Common Gull** *Larus canus*, **Stock Dove** *Columba oenas* (2-5-13), **Woodpigeon** *Columba palumbus* (0-0-20), **Little Owl** *Athene noctua* (1-5-14), **Tawny Owl** *Strix aluco* (1-4-15), **Green Woodpecker** *Picus viridis* (3-8-7), **Skylark** *Alauda arvensis* (0-2-17), **Rook** *Corvus frugilegus* (0-0-21), **Jackdaw** *Corvus monedula* (1-2-17), **Great Tit** *Parus major* (1-1-19), **Blue Tit** *Parus caeruleus* (0-0-21), **Coal Tit** *Parus ater* (3-3-13), **Long-tailed Tit** *Aegithalos caudatus* (2-1-17), **Treecreeper** *Certhia familiaris* (5-2-13), **Wren** *Troglodytes troglodytes* (0-1-20), **Mistle Thrush** *Turdus viscivorus* (1-2-17), **Song Thrush** *Turdus philomelos* (0-0-21), **Blackbird** *Turdus merula* (0-0-21), **Robin** *Erithacus rubecula* (0-1-20), **Goldcrest** *Regulus regulus* (6-6-6), **Duncock** *Prunella modularis* (1-1-19), **Starling** *Sturnus vulgaris* (0-0-21), **Greenfinch** *Carduelis chloris* (0-3-18), **Linnets** *Acanthis cannabina* (0-2-19), **Bullfinch** *Pyrrhula pyrrhula* (1-2-18), **Chaffinch** *Fringilla coelebs* (0-4-17), **Yellowhammer** *Emberiza citrinella* (0-6-15), **Reed Bunting** *Emberiza schoeniclus* (0-2-19), **House Sparrow** *Passer domesticus* (0-1-20), **Tree Sparrow** *Passer montanus* (1-1-19).

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

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

Breeding confirmed at Chimney Corner CIP, Elstow CIP (3 young), Felmersham NR, Henlow GP (1 young), Sandy GP (2 young), Wyboston GP (8 young), Southill L (1 young) and Luton Hoo L. Also present during the breeding season at Chawston GP, Barkers Lane GP, Stewartby L, Vicarage Farm CIP and Heath and Reach SP. Stewartby L supported a maximum of 44 early in the year, and a post-breeding gathering there of 60 on 14th August decreased to 35 in September and the flock did not exceed that figure during the remaining months of the year.

**Red-necked Grebe** *Podiceps grisegena*

One at Sandy GP on 9th November (PT).

**Little Grebe** *Podiceps nigricollis* 1-2-12

Positive records of breeding received for Battlesdon L, Jones SP (Heath and Reach), Stanford GP, Stewartby L, Sundon Quarries and Wyboston GP. In addition recorded during the breeding season at Elstow CIP, Vicarage Farm CIP, Felmersham NR, Ickwell Park, Sandy GP and Luton Hoo L.

**Heron** *Ardea cinerea*

8-0-3

Thirteen nests occupied at Southill L (IJFL, JTRS) and five nests occupied at Bromham (PT). The third heronry in the Atlas area is not in Bedfordshire, and although the species has been recorded as present in eight other squares in the Atlas area breeding has not been suspected in any of them. The largest post-breeding gathering was 24 at Bedford SF on 22nd July.

**Mallard** *Anas platyrhynchos*

0-0-21

The maximum numbers recorded at selected localities from January to March and from September to December are tabulated. In this table and in the three subsequent ones 'n/c' indicates birds present but not counted and '—' indicates no report.

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Stewartby L	1000	100	100	1200	1200	200	600
Wyboston GP	125	330	600	100	350	254	83
Chimney Corner CIP	—	—	—	80	—	270	—
Luton Hoo L	150	—	—	n/c	500	304	250
Southill L	—	—	—	79	230	125	320

Sporadic counts from other localities include 80 at Battlesdon L in January and 100 at Eversholt L in November.

**Teal** *Anas crecca*

4-0-1

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

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Wyboston GP	259	300	250	5	9	14	7
Stewartby L	20	5	2	70	50	19	200
Vicarage Farn CIP	—	12	30	21	—	6	4
Bedford SF	120	15	7	3	21	25	36
Southill L	—	—	—	29	49	26	80
Battlesdon L	—	—	—	2	3	14	6

The locality of the one breeding record in the Atlas area is not in the County.

**Garganey** *Anas querquedula*

First recorded at Wyboston GP on 10th April (PT). Autumn records consist of up to three at Wyboston GP from 27th July to 27th September and one at Dunstable SF from 27th-31st August (BS, MS, PT).

**Gadwall** *Anas strepera*

1-0-0

Two at Wyboston GP on 15th February and one there on 23rd (JND, PGK), one at Dunstable SF from 3rd to 17th September (AJL, BS, MS), and a pair at Stewartby L on 23rd November (JND).

**Wigeon** *Anas penelope*

Reported during the winter months at Barkers Lane GP, Bedford SF, Chimney Corner CIP, Felmersham NR, Garsides SP (Leighton Buzzard), Luton Hoo L, Southill L, Stewartby L and Wyboston GP. The Wildfowl Trust reported that the national level of Wigeon numbers during January was the highest on record, and this was reflected by counts of 230 at Stewartby L and 40 at Wyboston GP on 5th January (AJL, BS).

**Pintail** *Anas acuta*

Four at Stewartby L on 5th January and five there on 28th December. At Wyboston GP, one on 5th January, two on 11th, five on 15th February, two on 16th, and ten on 2nd March. Three at Dunstable SF on 17th December.

**Shoveler** *Anas clypeata*

1-0-2

The only record during the summer months was of five drakes at Southill L on 14th June (IJFL, JTRS). The largest numbers were at Wyboston GP during the first four months of the year, with peaks of four in January, 22 in February, 30 in March, and 12 in April. Records for August to December come from Wyboston GP, Stewartby L, Dunstable SF, Luton Hoo L and Southill L, but the maximum count was only four.

**Tufted Duck** *Aythya fuligula*

1-4-11

Present during the breeding season at the following localities and young seen at most: Barkers Lane GP, Battlesdon L, Bromham Park, Wyboston GP, Chawston GP, Felmersham NR, Harrold GP, Melchbourne Park L, Sandy GP, Southill L, Elstow CIP, Stewartby L, Vicarage Farm CIP, Dunstable SF, East Hyde, Luton Hoo L and Heath and Reach SP. At least seven further sites where this species probably bred were apparently not visited.

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

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Wyboston GP	120	200	100	60	50	108	88
Stewartby L	82	40	25	n/c	50	21	100
Battlesdon L	13	30	30	—	—	8	25
Luton Hoo L	51	30	—	—	34	51	56
Felmersham NR	—	—	60	—	8	31	21

**Pochard** *Aythya ferina*

4-2-3

Present during the breeding season at Battlesdon L, East Hyde, Garsides SP (four young), Heath and Reach SP (three young), Sandy GP, Southill L and Wyboston GP.

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

	Jan.	Feb.	Mar.	Sep.	Oct.	Nov.	Dec.
Wyboston GP	68	150	100	127	35	126	155
Stewartby L	—	20	—	—	100	130	15
Barkers Lane GP	13	7	5	—	1	—	—
Battlesdon L	3	—	15	—	—	10	40

**Pochard/Tufted Duck hybrid** *Aythya* sp.

Drake seen at Felmersham NR on 6th March (EMS, JTRS).

**Goldeneye** *Bucephala clangula*

Present at Stewartby L from January to April with 14 on 5th January, seven on 2nd February and again on 16th, 12 on 16th March, and eight on 20th April. Up to three were recorded at Wyboston GP from January until 4th April, and ones and twos occurred at Arlesey CIP, Felmersham



NR, Elstow CIP and Harrold GP, the last spring bird being at Felmersham NR on 22nd April. The first autumn bird was at Stewartby L on 13th September, and numbers there peaked at seven on 27th December. Three were seen at Wyboston GP during November and December.

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

A pair at Wyboston GP on 11th January (PT).

**Goosander** *Mergus merganser*

A female at Wyboston GP on 1st January, two there on 5th, one on 11th, and one again on 15th February. At Stewartby L, a drake on 2nd March, and a female on 30th November and 14th December. Single females seen at Southill L and Dunstable SF on 21st December. (AJL, BS, MS, PT).

**Shelduck** *Tadorna tadorna*

0-1-0

Four at Bedford SF on 22nd March (PT) and one at Home Wood Moat on 7th May (KGC, JTRS). One at Garsides SP on 26th December (KRSS), one at Dunstable SF on 21st December and two there on 28th (DG, SWR, BS, MS).

**Grey Geese** *Anser* sp.

Three flew over Sandy Lodge on 28th September, and another flock heard there on 26th November (DE).

**Grey Lag Goose** *Anser anser*

Two at Garsides SP on 9th December (KRSS).

**White-fronted Goose** *Anser albifrons*

14 flew NE over Luton on 29th January and seven flew NE over Luton on 22nd February (MS).

**Canada Goose** *Branta canadensis*

2-0-0

Two on the River Ouse near Harrold on 18th April (KH), one at Stewartby L on 20th April (AJL), and one flying over Streatley on 4th May (MS). Both of the summering records in the Atlas area are at localities not in the County.

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

Two at Garsides SP from 23rd to 30th November (DG, KRSS).

**Buzzard** *Buteo buteo*

Two over Colworth House on 8th September (KH) and one at Dunstable SF on 27th September (BS). One was seen regularly in Luton Hoo Park from late September until the end of the year (per AJL).

**Sparrowhawk** *Accipiter nisus*

6-0-2

Atlas field-work produced possible breeding records in four additional 10 km. squares — SP92, SP96 and TL03, where the exact localities were not reported, and in TL14 at Southill Park (IJFL, JTRS). Singles seen at Husborne Crawley on 27th April (KRW) and at Dunstable SF on 28th April (BDH) may also refer to breeding birds.

**Hobby** *Falco subbuteo*

2-0-2

The only record during the year was one seen in north Bedfordshire on 18th May (JND).

**Kestrel** *Falco tinnunculus*

4-3-13

Increased recording now shows this species to be present during the breeding season in all squares in the Atlas area except one in which minimal field-work has been done. The density of breeding pairs appears to vary considerably, with 6-10 in TL14 (JTRS) but only 1-2 in TL06 (JND).

Recorded during January to March and August to December in at least 42 localities, but little can be concluded from these records as coverage during the winter months is very variable.

**Water Rail** *Rallus aquaticus*

4-3-2

Many reports from Flitwick Moor where at least two pairs are thought to have bred, and also recorded during the breeding season at Bedford SF, Wyboston GP, Dunstable SF and Old Warden. At least two of the records in the Atlas area are from localities outside the County. Many winter records from the above places and also at Barkers Lane GP, Southill L, Battlesdon L, near Edlesborough, Buckle Grove, Luton SF, Luton Hoo L, East Hyde and Vicarage Farm CIP.

**Coot** *Fulica atra*

1-0-18

High counts were c250 at Wyboston GP on 1st January, 305 there on 15th February and c350 on 2nd March, 218 at Chimney Corner CIP on 12th October increasing to 358 on 28th December, and c250 at Luton Hoo L on 30th November. An estimated 51-70 breeding pairs in TL14 (JTRS).

**Oystercatcher** *Haematopus ostralegus*

One heard calling over Houghton Regis on 8th April (BDH).

**Lapwing** *Vanellus vanellus*

1-0-19

The larger flocks early in the year were c300 at Wyboston GP on 5th January and c500 over Luton on 22nd February. Notable post-breeding flocks were c400 at Dunstable SF on 3rd August and c500 at Garsides SP on 5th, and the largest flocks late in the year were c500 at Dunstable SF on 30th November and c500 at Luton Hoo on the same day.

**Ringed Plover** *Charadrius hiaticula*

0-0-1

Spring passage : Singles at Dunstable SF on 15th and 27th April.

Autumn passage : At Dunstable SF from 28th July to 21st September, maximum four on 24th August; at Wyboston GP one on 3rd-7th August; at Stewartby L one on 17th July; and at Bedford SF from 9th August to 15th September, maximum two on 23rd August.

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

**Little Ringed Plover** *Charadrius dubius*

1-1-7

Spring passage was obscured by breeding birds at most localities, but the first record was of a passage bird at East Hyde on 5th April. Up to three at Dunstable SF from 26th April onwards were mostly considered to be breeding birds from nearby Houghton Regis ChP. Probable passage birds also recorded at Harrold GP and Stewartby L.

Although success data are not available breeding was attempted as follows : at Wyboston GP 5-6 pairs, at Harrold GP one pair, at Sandy GP two pairs, at Jones SP one pair, and at Houghton Regis ChP one pair.

Autumn passage : At Dunstable SF from 28th July to 6th August, maximum three on 28th July; at Wyboston GP present after breeding season until 4th September, maximum six on 27th July; at Stewartby L from 26th July to 14th August, maximum three on 10th August; at Bedford SF

from 21st July to 7th September, maximum three on 6th September; at Garsides SP six from 20th-22nd September; at Harrold GP a juvenile on 4th August and an adult on 8th September.

**Golden Plover** *Pluvialis apricaria*

No records during January or February. Six over Dunstable on 30th March, c130 near Streatley on 16th April decreasing to five by 18th, and c30 at Someries Castle on 27th April. There were only four records totalling eleven birds during the latter months of the year.

**Snipe** *Gallinago gallinago*

5-3-4

Breeding now proved in four squares in the Atlas area, with an estimated 6-10 pairs in TL14. Very common during the winter months with high counts of 500-600 at Felmersham NR on 6th March and c250 at Wyboston GP on 23rd February and on 16th March.

**Jack Snipe** *Lymnocyptes minima*

Recorded during the winter months at Bedford SF, Dunstable SF, East Hyde, Vicarage Farm CIP and Wyboston GP. Extreme dates, both at Bedford SF, were 5th April and 28th September (PT, CDWS).

**Woodcock** *Scolopax rusticola*

3-5-5

The quantity of records indicates that this species is abundant in all areas where there is extensive woodland, most particularly on the Greensand belt. Out of the breeding season only recorded at Sandy Lodge, Flitwick Moor and Luton Hoo Park.

**Curlew** *Numenius arquata*

One at Bedford SF on 29th March (PT), at least two heard over Bedford on 30th March (JTRS), one at Harrold GP on 7th July (KH), one over Sandy Lodge on 15th July (DE), one over Sundon Quarries on 24th August and two at Elstow CIP on 14th September (BS). The 1968 record of a summering bird in the Atlas area is now excluded as it has not been substantiated.

**Whimbrel** *Numenius phaeopus*

One at Wyboston GP on 20th April (JND, AJL), four E over Sandy GP on 26th April (IJFL, JTRS), one at Bedford SF on 22nd July (PT), and 19 over Sandy Lodge on 3rd August (DE).

**Green Sandpiper** *Tringa ochropus*

One at Dunstable SF on the early date of 23rd February (BS).

Spring passage: Singles seen at Dunstable SF on 8th, 19th and 21st April presumably refer to the same individual (BDH, MS).

Autumn passage: At Wyboston GP from 14th July to 14th September, maximum two on 16th and 19th July; at Bedford SF from 16th July to 19th September, maximum 11 on 19th-21st August, and also three on 14th November; at Dunstable SF from 28th July to 21st September, maximum two on 28th July and 10th August; at Sandy Lodge a steady trickle from 2nd July to 15th October, maximum three on 29th July, 3rd August and 13th August. Also two at Stewartby L on 27th July, one throughout August at Garsides SP, one at Harrold GP from 2nd to 10th August, two at Chalton SF on 28th September, and one at Bromham GP on 10th October. A mid-winter record of one at Flitwick Moor on 26th December (MS).

**Wood Sandpiper** *Tringa glareola*

No spring records. In autumn, one at Dunstable SF on 6th-7th August (AJL, BS), one at Stewartby L on 10th August (BS), and a short passage at Bedford SF from 14th to 28th September, with a maximum of five from 21st-23rd (JTRS, PT, CDWS).

**Common Sandpiper** *Tringa hypoleucos*

Spring passage: Singles during April at East Hyde on 16th, at Stewartby L on 20th, at Holme Mill on 26th, at Harrold GP on 28th and at Wyboston GP on 29th. At Dunstable SF six on 26th April decreasing to the last one on 2nd May; also on 26th April, six at Sandy GP and four at Southill L, with five at Sandy GP on 4th May. One at Vicarage Farm CIP on 3rd May and two at Jones SP on 4th, one remaining until 11th. Only one spring bird reported at Bedford SF, on 18th May.

Autumn passage: At Wyboston GP from 16th July to 2nd September, maximum eight on 18th August; at Sandy Lodge from 3rd to 20th August, maximum three on 15th; at Bedford SF from 19th July to 28th September, maximum seven on 8th August; at Stewartby L from 21st July to 21st September, maximum eight on 27th July; at Dunstable SF from 7th August to 5th October, maximum 12-15 on 17th August; at Harrold GP from 28th July to 18th August, maximum six on 6th August. In addition, one at Vicarage Farm CIP from 8th to 14th August, two at Heath and Reach SP on 17th August, six at Garsides SP on 27th July, one at Cityfields GP on 13th-17th August, two at Bromham GP on 12th October, and at least one heard at night over Luton on 14th and 15th August.

**Redshank** *Tringa totanus*

2-1-8

One at Bedford SF from 4th-12th January was the only winter record. The first pair returned to Bedford SF on 1st March, and 4-5 pairs bred there, with an additional pair at Barkers Lane GP. Also observed breeding or probably breeding at Wyboston GP (one pair), Sandy GP (one pair), Stanford GP (one pair), Vicarage Farm CIP (two pairs), Stewartby L (one pair), Marston CIP (one pair) and Jones SP (one pair). Probably breeding at several other clay pits that were not visited.

Odd birds at Dunstable SF from 30th March to 27th April, and one at Harrold GP on 18th April.

Autumn passage obscured, but away from breeding localities one at Harrold GP on 30th July and one at East Hyde on 27th July. The last record during the year was one at Bedford SF on 17th August.

**Spotted Redshank** *Tringa erythropus*

Four at Wyboston GP on 18th August and two there on 24th and 26th (JND, PT).

**Greenshank** *Tringa nebularia*

No spring records. All autumn records were of single birds: at Sandy Lodge on 4th July; at Wyboston GP on 16th July and 24th August; over Putnoe, Bedford on 6th August; at Stewartby L on 14th-15th and 28th August; at Harrold GP from 3rd-8th September; and at Garsides SP from 23rd-27th September.

**Dunlin** *Calidris alpina*

Spring passage: 16 at Bedford SF on 22nd March; up to five at Dunstable SF/Houghton Regis ChP on 26th-27th April; and one at Heath and Reach SP on 4th May.

Autumn passage : One at Harrold GP on 27th July; one at Dunstable SF on 24th August; at Bedford SF one on 15th-16th September, one from 12th-17th October, three on 18th, and one on 19th.

Two mid-winter records, both of single birds at Wyboston GP, on 19th January and on 13th December.

**Curlew Sandpiper** *Calidris ferruginea*

Two at Bedford SF on 14th September, at least three on 15th, four from 16th-19th, and one until 22nd (JND, AH, JTRS, PT).

**Ruff** *Philomachus pugnax*

Spring passage : One very early bird at Stewartby L, on 17th February (MS); four at Wyboston GP on 4th April (MC, SCS); and one at Heath and Reach SP on 4th May (BS). One male in full breeding plumage at Wyboston GP on 26th June, an unusual date (PT).

Autumn passage : At Dunstable SF from 3rd August to 5th October, maximum five on 17th-21st September; at Bedford SF from 30th July to 22nd November, maximum seven on 17th-23rd August, with a further peak of six on 21st-28th September; and one at Harrold GP on 13th August.

**Phalarope sp.** *Phalaropus* sp.

Two seen at Stewartby L, on 12th-13th September; adverse light conditions and great range prevented specific identification (AJL, BJN, BS, JTRS).

**Great Skua** *Stercorarius skua*

One seen at Wyboston GP on 14th September (PT).

**Great Black-backed Gull** *Larus marinus*

c50 at Dunstable SF on 9th February was the largest recorded flock (BS).

**Lesser Black-backed Gull** *Larus fuscus* 0-0-1

No reports received of breeding in the "clay basin" although up to five adults and up to 15 immatures were present during May (BDH, AJL). Monthly maxima during the autumn at Dunstable SF were 150 in July, 22 in August, c500 in September and c600 in October. Other counts were of c350 at Elstow CIP on 3rd September and c70 at Telegraph Hill, Pegsdon on 21st and 28th September.

**Little Gull** *Larus minutus*

One at Sandy GP on 26th April and two at Southill L, on 4th-5th May were all first summer birds (IJFL, EMS, JTRS), and there was an immature at Stewartby L, on 2nd November (MS, PS, SCS).

**Black-headed Gull** *Larus ridibundus* 1-0-2

c100 pairs were counted at Vicarage Farm CIP on 29th May (BDH, AJL), but no further breeding data are available for this locality or for any of the other clay pits. Did not attempt to breed at Wyboston GP where the species first bred in 1968.

**Black Tern** *Chlidonias niger*

Spring passage : One at Southill L, on 4th May and one at Stewartby L, on 26th May (JND, IJFL, JTRS).

Autumn passage : At Stewartby L, six on 27th July, one on 14th and 28th August, five on 13th September, two on 14th, and one on 21st and 29th;

at Wyboston GP four on 3rd August and one on 7th; and at Dunstable SF three on 3rd August and one on 12th.

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

Spring passage: One at Harrold GP on 7th April, two at Wyboston GP on 29th, one at Tempsford on 2nd May, two at Vicarage Farm CIP on 11th, and one at Stewartby L on 26th. During June four at Stewartby L on 9th, three there on 25th, and seven on 30th (JND, KH, SCS, PT).

Autumn passage: At Barkers Lane GP one on 1st August and two on 20th September (PT); at Wyboston GP the onset of autumn passage was obscured by the departure of the breeding Common Terns, but the following were thought to be passage birds — four on 7th August, three on 13th, one on 18th, one on 24th, two on 26th, two on 2nd September, one on 4th, and six on 14th (JND, MS, PT).

**Common Tern** *Sterna hirundo*

0-0-2

Spring passage: One at Sandy GP on 26th April and a pair there on 4th May, but they did not stay to breed (IJFL, JTRS); four at Stewartby L on 11th May (AJL) and two near Leighton Buzzard on 16th June (BDH).

Breeding: Seven terns were on the breeding site at Wyboston GP on 4th May, there were 10 on 18th and 14 on 24th. By 8th June at least 20 adults were present and ten nests were visibly occupied, nine of them on islands and one on an accessible gravel spit. On 3rd July, the next visit, there were at least 26 terns present, but they showed little or no anxiety at the sight of the observers and subsequent inspection of the islands revealed that sometime during the preceding few weeks all the nests had been robbed of their contents, almost definitely by humans. Five birds were still present on 27th July and two on 3rd August. (JND, MR, PS et al). The second breeding record in the Atlas area is at a locality outside the County.

Autumn passage: Two individuals at Wyboston GP (also included under Common/Arctic Tern) were specifically identified — a juvenile on 24th August and one on 4th September (JND, MS).

**Sandwich Tern** *Sterna sandvicensis*

One at Wyboston GP on 4th September (MS).

**Turtle Dove** *Streptopelia turtur*

0-6-15

First two recorded at Dunstable SF on 27th April (AJL) and last seen on 29th September at Sandy Lodge (DE).

**Collared Dove** *Streptopelia decaocto*

3-7-7

A roost of c30 at Legrave was the largest gathering reported (BS). 21-30 breeding pairs in TL14 (IJFL, JTRS).

**Cuckoo** *Cuculus canorus*

1-13-7

First recorded on 18th April at Sandy Lodge (DE) and last seen on 20th September at Bedford SF (PT)

**Barn Owl** *Tyto alba*

6-2-6

The second season of Atlas study produced this species in only two new squares in the area. Up to six were reported at Coplewood End Farm in spring (per JTRS).

**Long-eared Owl** *Asio otus*

2-3-1

One heard calling on several occasions during March and April at Stockgrove Woods was the only additional record to the Atlas data (DG, BDH). One seen at Pegsdon on 5th January (MS, SCS).

**Nightjar** *Caprimulgus europaeus* 2-4-1

Both the first record, of four churring males on 14th May, and the last record, a single bird on 2nd August, were at Sandy Lodge (DE). Located in two new squares in the Atlas area, but not found in a usual haunt at Heath and Reach.

**Swift** *Apus apus* 4-0-16

First recorded on 27th April at Dunstable SF and last seen on 20th September at Bedford SF.

**Kingfisher** *Alcedo atthis* 3-2-6

Atlas study produced records during the breeding season in two new squares, but the localities of many sightings were not submitted and at least three of the Atlas records are from outside the County.

**Hoopoe** *Upupa epops*

One seen at Dunstable on 1st April (JTRS).

**Great Spotted Woodpecker** *Dendrocopos major* 4-10-3

Atlas workers located this species in three new squares during the breeding season, but it is still apparently absent from four squares in the Atlas area.

**Lesser Spotted Woodpecker** *Dendrocopos minor* 7-1-5

Located in two new squares in the Atlas area. It is perhaps surprising that there are more records of proven breeding of this secretive species than of its larger relative.

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

Recorded on at least two occasions during the breeding season in TL03 (WGS) and one heard at Charle Wood on 4th May (KRW).

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

First recorded on 10th April at Dunstable SF and Wyboston GP and last seen on 19th October over Luton (SWR, MS, PT).

**House Martin** *Delichon urbica* 0-0-20

First seen on 20th April near Luton and last recorded at Sandy Lodge on 28th October (DE, SWR).

**Sand Martin** *Riparia riparia* 1-1-13

First recorded on 10th April at Dunstable SF and Wyboston GP and last seen at Heath and Reach SP on 5th October (MS, PT).

**Carrion Crow** *Corvus corone corone* 2-1-17

An unusually large concentration during March at Dunstable SF peaked at c250 on 16th (AJL, BS).

**Hooded Crow** *Corvus corone cornix*

A single bird seen at Dunstable SF on six dates from 16th February to 19th April, two being present on 9th March. One also seen at Dunstable SF on 23rd November and again on 28th December.

**Magpie** *Pica pica* 4-2-12

At least four but less than ten pairs in TL14 (IJFL, JTRS) and 10-12 pairs in TL02 (BS).

**Jay** *Garrulus glandarius* 3-3-13

Only two pairs located in TL02 during the breeding season (BS).

**Marsh Tit** *Parus palustris* 4-2-14

Detailed Atlas study in TL14 produced this species in 11 out of the 25 tetrads (2 km. squares) in the 10 km. square (IJFL, JTRS). Compare with Willow Tit, below.

**Willow Tit** *Parus montanus* 0-6-13

Recorded in 10 out of 25 tetrads in TL14 (IJFL, JTRS). Compare with Marsh Tit, above.

**Nuthatch** *Sitta europaea* 4-3-6

The Atlas data indicate a patchy distribution, but the species is certainly most numerous along the Greensand belt. An estimated 21-50 pairs in TL14 (IJFL, JTRS).

**Fieldfare** *Turdus pilaris*

c20 flying SE over Dunstable at dusk on 10th February (RF) was the largest flock reported until April when numbers at Bedford SF built up to c300 on 8th, with 100 still present on 21st (PT). Records during May were of five at Penn Wood, Melchbourne on 2nd, one at Bolnhurst on 4th, two near Upper Caldicote on 5th, and ten at Odell on 6th (JND, KH, EMS, JTRS).

The first autumn record was of c20 near Woburn on 29th August, an exceptionally early date, but in keeping with the national trend of recent years (JND). During the last fortnight in October the species became thinly but widely distributed in the County, and the largest gathering recorded in the remainder of the year was c750 near Houghton Conquest on 16th November (AJL).

**Redwing** *Turdus iliacus*

Scarce during the early months of the year with a maximum count of 50 at Sandy Lodge on 15th February, and the last spring record was from the same locality on 24th April (DE). The first autumn record was of diurnal passage to the south-west over Houghton Regis on 10th October (BDH). Late autumn flocks were numerous and the largest was c300 at Sandy Lodge on 17th October (DE).

**Ring Ouzel** *Turdus torquatus*

A male was seen at Sundon Quarries on 23rd March (BS) and another was at Houghton Regis ChP on 27th April (MS, SCS).

**Wheatear** *Oenanthe oenanthe* 1-0-1

First seen on 25th March at Barton (AJL) and then widely recorded during April and May, counts on 27th April of nine near Streatley (MS) and c20 at Someries Castle (SWR) indicating the peak of spring passage through the County. A juvenile at Streatley on 29th June is considered to have been reared in that area (BS). Far fewer recorded on autumn passage, the extreme dates being 8th August and 28th September.

**Stonechat** *Saxicola torquata*

A female near Chalton on 13th March (BS) and one at Heath and Reach on 30th November (MS).

**Whinchat** *Saxicola rubetra* 2-1-4

The first spring record was of one at Dunstable SF on 28th April (BDH). Two breeding pairs were found at Biggleswade Common (IJFL, JTRS)



and at least three pairs on Dunstable Downs (RF, BS). Details of the other breeding records were not submitted. Widely recorded on autumn passage from 9th August to 10th October.

**Redstart** *Phoenicurus phoenicurus* 1-1-4

The first spring record was one at Charle Wood, a breeding locality, on 4th May (KRW). Other breeding records were for Southill Park, Keepers Warren and Millbrook Plantation (IJFL, BDH, JTRS). Autumn migrants were seen at Sandy Lodge on 3rd August, 2nd and 4th September, at Brickhill, Bedford on 3rd September, and at Leagrave on 27th September.

**Black Redstart** *Phoenicurus ochruros*

One seen at Sandy Lodge on 17th October (DE).

**Nightingale** *Luscinia megarhynchos* 2-13-0

The first spring arrivals were two at Sandy Lodge on 20th April (DE), followed by others at Colworth Estate and Odell Great Wood on 28th (KH) and Warden Great Wood on 29th (EMS, JTRS). Atlas field-work revealed 11-20 pairs in TL06, the localities within the County being Pippin Wood, Spanoak Wood and Swineshead Wood (JND); 11-20 pairs in TL14, at Warden Great Wood, Exeter Wood, Palmers Wood, Chicksands Wood, Home Wood and a moat at Upper Caldicote (IJFL, EMS, JTRS). One or two were found in Maulden Wood and one at Barton Hills (AJL). No other details were received although the species is breeding in 15 of the 21 squares in the Atlas area.

**Grasshopper Warbler** *Locustella naevia* 3-12-6

First recorded on 20th April at Charle Wood (KRW) and last seen on 4th August at Houghton Regis (BDH). Present during the breeding season in every square in the Atlas area and apparently occurring wherever there is suitable habitat. Most numerous in TL14, with an estimated 51-70 pairs (IJFL, JTRS), and in TL06 with an estimated 25-35 pairs (JND).

**Reed Warbler** *Acrocephalus scirpaceus* 2-0-10

No significant dates of arrival and departure were reported and no new breeding localities were found. The colony at Southill L remained at 21-30 pairs (IJFL, JTRS).

**Sedge Warbler** *Acrocephalus schoenobaenus* 0-5-14

First seen on 17th April at Bedford SF (MS) and widely reported during the next few days. The last autumn bird was at Dunstable on 6th October (BDH).

**Blackcap** *Sylvia atricapilla* 0-3-17

First seen on 14th April at Flitwick Moor (MS) and widely reported during the next fortnight. Last seen on 30th October at Sandy Lodge (DE).

**Garden Warbler** *Sylvia borin* 2-8-10

First recorded on 19th April at Sandy Lodge (DE) and last seen on 2nd October in Dunstable (RF).

**Whitethroat** *Sylvia communis* 0-2-19

The first spring record was a pair at Galley Hill on 27th April (MS), followed by one at Sandy Lodge and one at Brickhill, Bedford on 29th (DE, JTRS). The last autumn record was one at Brickhill, Bedford on 16th September (JTRS).

The breeding population of this species was very much reduced, with the national population index at about a quarter of the 1968 figure. In some regions the reduction was even more marked, and this appeared to be the case in Bedfordshire, particularly in the north of the County.

**Lesser Whitethroat** *Sylvia curruca* 2-10-8

First recorded on 28th April at Felmersham NR (JTRS) and last seen on 13th September at Barkers Lane GP (PT). Breeding birds found in all but one square in the Atlas area, the following figures being reported: TL02 — two pairs (BS), TL03 — one pair (AJL), TL05 — three pairs (PT), TL06 — at least six pairs (JND), TL14 — at least eight pairs (IJFL, JTRS).

**Willow Warbler** *Phylloscopus trochilus* 6-1-20

First recorded at Sandy Lodge on 7th April and last seen at the same locality on 1st October (DE).

**Chiffchaff** *Phylloscopus collybita* 0-4-17

First spring arrivals were at East Hyde and Dunstable SF on 30th March, and many more were recorded in the first ten days of April. The last autumn migrant was at Sandy Lodge on 14th October (DE). A wintering individual was seen at Bedford SF on 21st December (AH).

**Wood Warbler** *Phylloscopus sibilatrix* 1-3-2

Two singing males at Charle Wood on 18th June constitute the only record during the year (JND). At least four of the Atlas records are at localities outside the County.

**Firecrest** *Regulus ignicapillus*

One was seen at Houghton Regis on 13th October (BDH).

**Spotted Flycatcher** *Muscicapa striata* 2-0-18

First spring arrivals noted on 13th May near Old Warden (JTRS) and last recorded on 28th September at Sandy Lodge (DE).

**Pied Flycatcher** *Ficedula hypoleuca*

An autumn migrant was seen at Sandy Lodge on 20th August (DE).

**Meadow Pipit** *Anthus pratensis* 4-3-8

Atlas field-work indicates that this species does not breed in the squares to the north and west of Bedford, nor in TL14 and TL24. A pair bred for the first time in recent years at Bedford SF (JND, PT). An estimated 51-70 pairs in TL02 (BS). At least 100 passage birds were noted at Stewarby L on 20th April (AJL).

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

Both first and last migrants were recorded at Sandy Lodge, on 12th April and 17th September (DE). At least 20 pairs in SP92 (BDH, MS) and 21-50 pairs in TL14 (IJFL, JTRS).

**Pied Wagtail** *Motacilla alba yarrellii* 1-5-14

The factory of George Kent Ltd., Luton and Goldington Power Station, Bedford were again the two major winter roosts. At least 200 were still present at Bedford SF on 19th April (JND). The density of breeding pairs in the County is very variable: none are known in SP94, only one or two in TL06, 16-30 pairs in TL14, and innumerable pairs in TL04 (which includes both Bedford SF and all the clay pits).

**White Wagtail** *Motacilla alba alba*

Ones and twos recorded on spring passage from 7th April to 3rd May at East Hyde, Dunstable SF, Stewartby L, Bedford SF and Flitwick Moor (JND, AJL, BS, MS).

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

None were recorded in Bedfordshire during the breeding season and the locality of the one breeding record in the Atlas area is not in the County. A second breeding record that was included in the 1968 report should now be discounted.

During January to March ones and twos were recorded frequently at East Hyde, Luton SF, Chalton SF and Bedford SF. During September to December up to three were recorded at Sandy Lodge, Bedford SF, Dunstable SF, Barton Springs, East Hyde, R. Ivel near Biggleswade, Houghton Regis, Luton and Luton Hoo L.

**Yellow Wagtail** *Motacilla flava* 2-1-12

First spring arrivals at Dunstable SF and Wyboston GP on 10th April (MS, PT) and last recorded at Sandy Lodge on 8th October (DE). Breeding birds have still not been found in six squares in the Atlas area. A comparison with 1968 in TL05 showed a marked decrease in the number of breeding pairs and a total absence from two localities (PT). An estimated 16-30 pairs in TL14 (IJFL, JTRS).

**Great Grey Shrike** *Lanius excubitor*

One at Pegsdon Hills on 5th January (MS, SCS), one at Wyboston GP on 23rd February (JND), and one (probably the same bird) at Wyboston GP on 3rd April (PT).

**Red-backed Shrike** *Lanius collurio* 0-1-2

A careful search of the chalk downs did not produce any records of successful breeding although single males were seen at two sites (SWR, BS). A female at Keepers Warren on 26th May was considered to be a passing migrant (IJFL, JTRS).

**Hawfinch** *Coccothraustes coccothraustes* 3-2-4

At least four breeding pairs in TL14, at Keepers Warren, at two sites in Southill Park, and at a moat near Upper Caldicote (IJFL, JTRS). Details of the two additional records in the Atlas area are not available.

**Goldfinch** *Carduelis carduelis* 1-4-16

Two particularly large autumn flocks were recorded: c400 at Pegsdon Hills on 21st September (BS) and at least 100 at Bedford SF on 22nd September (JTRS).

**Siskin** *Carduelis spinus* 1-1-0

For the second consecutive year this species was recorded during the breeding season, as follows: at Sandy Lodge two were seen on 17th April, a male on 8th June, a female on 24th July, and one on 2nd August (DE, MS); at Rowney Warren a male was singing on 30th April (JTRS). The locality of a breeding season sighting in SP95 is not in the County.

During February a flock of at least 75 was seen at Flitwick Moor and an autumn flock at Sandy Lodge peaked at 20 during November.

**Redpoll** *Acanthis flammea* 0-3-9

Becoming increasingly widespread as a breeding species with reports from at least thirty localities in the County. Most numerous in the Greensand woodlands, with an estimated 101-150 pairs in TL14 (IJFL, JTRS)

and at least 25 pairs in SP92 (BDH), but also numerous on the Chilterns with an estimated 16-20 pairs in TL02 (BS). Only recorded in two squares in north Bedfordshire, with at least 15 pairs in TL06 (JND) and one pair in TL15 at Wyboston GP (JND).

Few reports were received of winter flocks, but a party of up to 18 at Putnoe, Bedford during February was unusual (MED). Up to 50 recorded at Sandy Lodge in November.

**Crossbill** *Loxia curvirostra* 0-0-2

Five were seen at Sandy Lodge on 5th April (TOJ) and two at Charle Wood on 27th July (KRW). Atlas field-workers located fledged young in both SP92 and SP93, but although they were probably in Bedfordshire details have not been made available.

**Brambling** *Fringilla montifringilla*

Few reports during the early part of the year, the largest flocks being c50 at Cranfield on 16th March (JND) and c50 on 9th February at Sandy Lodge where the last spring bird was seen on 19th April (DE). One at Sandy Lodge on 17th October and a few there in November were the only birds reported during the latter part of the year.

**Corn Bunting** *Emberiza calandra* 1-13-7

16-30 pairs estimated in TL14 (IJFL, JTRS), 51-70 pairs in TL02 (BS) and 5-8 pairs in TL03 (AJL).

A. J. LIVETT.

J. N. DYMOND.

## MOLLUSCA

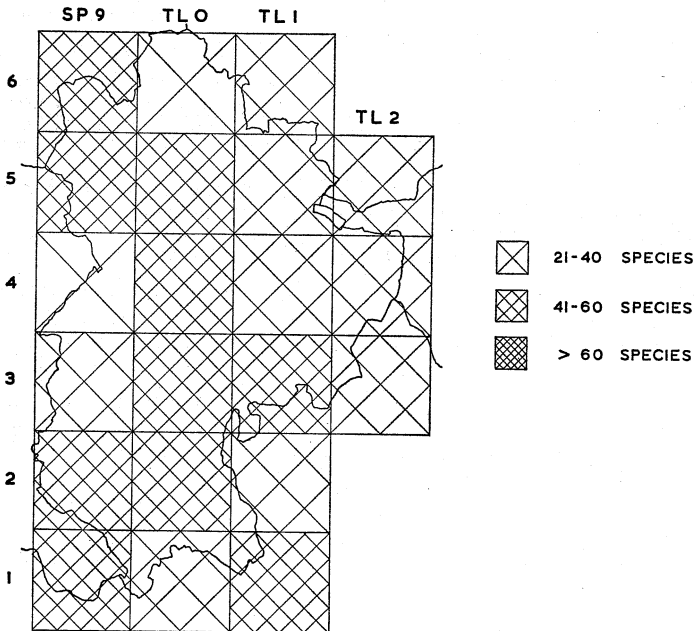
During 1969 recording of the Mollusca has continued in Bedfordshire and the map shows that as a County we are fairly well represented in the National Grid Scheme. There are still many obvious gaps and much work remains to be done before we can say that Bedfordshire is fully recorded.

Apart from general recording, a start has been made on more specialised projects. In conjunction with Dr. J. G. Doñy, who has been determining the up-to-date flora of woodlands in south Bedfordshire, we have investigated many of the same woods in search of slugs and snails. About thirty woods have been surveyed and much useful information gathered.

Visits have also been made to various Nature Reserves and Sites of Special Scientific Interest, and the lists of Mollusca gathered have been lodged with the authorities in charge of these sites. Flitwick Moor, at first sight, appeared to be a hopeless habitat due to its extremely acid conditions, but on close investigation we were able to bring the total count of species up to 51.

Several people have contacted me following my article in the 1968 Journal: I would like to thank them for their interest and for the specimens sent to me for identification. I hope that during the coming year many more members will send specimens to me for identification and inclusion in the master records. Specimens can be sent alive or dead and should be accompanied by a Grid Reference and the date of collection. If slugs and snails are sent alive a tin or plastic box should be used as they have been known to eat their way through a matchbox!

MRS. E. B. RANDS.



Map showing the number of species of Mollusca recorded in each 10 km. square in the Bedfordshire area, up to January 1970.

## PUTNOE WOOD

By A. W. GUPPY

The demolition of Putnoe Farm in 1968 ended a continuous period of over nine hundred years during which the site had been occupied by a succession of farm buildings at the centre of a manorial estate. Of the original Saxon settler, Putta, who gave his name to the 'hoh', or spur of land, on which the farm stood beside the Roman way called Putnoe Street, we know nothing; at the time of the Norman Conquest the manor was held, with many others in north Bedfordshire, by Anschil or Asketill, a royal thane whose name shows him to have been of Scandinavian origin.

Twenty-one years later, in 1087, the entries in Domesday Book show that all his property, Putnoe included, had been forfeited to Hugh de Beauchamp, first baron of Bedford and the foremost Norman landowner in the county. The extent of Putnoe woodlands was then assessed, in the customary way, by the number of swine which could be maintained — in this instance, one hundred. The actual area at this period can only be indirectly inferred, but in order to support so many animals it must have been far greater than its present twenty-six acres, perhaps as much as ten or twelve times.

Before the end of the 12th century the manor of Putnoe was given by the de Beauchamp family as an endowment to the Cistercian Abbey of Warden, and it remained in the possession of that monastery until the Dissolution in 1537. Great damage was done to the wood during the siege of Bedford Castle in 1224, the royal forces of Henry III doubtless using it as a convenient source of timber. Warden Abbey demanded, and received, annual compensation for their ravaged woodlands during the remainder of the king's lifetime, and the grant was renewed in 1304 for a further twenty years, that is, until a full century after the siege.

In 1539 the estate passed to the Gostwick family of Willington and they retained it for nearly two hundred years; later owners included the Dukes of Bedford, one of whom was Lord of the Manor of Putnoe as late as 1871.

Until 1934 the manor and its wood had always lain in Goldington parish, but when Goldington village was absorbed into Bedford in that year, the wood and much of the farm were transferred to Ravensden. Further boundary extensions in 1966 brought the wood within the borough, and it now forms part of the Corporation's Mowsbury Park which is at present being laid out and which is due for completion in 1972.

Reference to the earliest sheets of the Ordnance Survey shows that the wood has not changed in size over the past century and a half, that is, since the days of Charles Abbot, the schoolmaster-parson-botanist, in whose 'Flora Bedfordiensis', published in 1798, the first botanical records from the wood appear. Herein is recorded the wood's most notable rarity, the Water Avens, *Geum rivale*, in its only station in the north of the county, and here it continued throughout the 19th century and well into the 20th; it has not been seen for many years now, but there is always the hope that more intensive search will find it once again.

The wood lies along the bottom of a shallow valley at an altitude of little more than 100 feet above sea-level, and this situation, together with the Boulder Clay subsoil, produces very wet conditions, especially in winter and early spring. Those who visited the wood in the early months of 1969 can testify to this, the centre ride resembling a chain of ponds which did not dry out completely, even during the subsequent warm summer. In consequence there has always been a considerable sedge flora; three species were particularly noted by Abbot, *Carex strigosa*,

*C. pallescens* and *C. divulsa*. The latter was re-discovered by McLaren in the mid-nineteenth century, but all three lack modern records.

For the most part, the flora is typical of our damp Boulder Clay woods of north Bedfordshire, with plenty of anemones, bluebells and primroses in the spring and a few of the commoner orchids. None of the mature timber is of great age; it includes a higher proportion of Ash than usual, and there is some Elm at the western end. A large part of the wood is old hazel coppice, but this has not been cleared for many years, and the same applies to the brambles, roses and shrubs. Nevertheless, despite neglect, the wood has so far been found to contain nearly one hundred and twenty species of flowering plants, thus demonstrating a sustained high level of natural history interest.

This is also borne out by an equally wide variety in the Lepidoptera; no less than ten species of butterflies and ninety-four of moths have been recorded — a remarkable total for such a limited area. One moth species, the Mocha, *Cosymbia annulata*, constitutes a new county record; in view of the frequent occurrence of its food-plant in the wood (maple) we can look forward to its continuance as an established species.

The wood provides breeding habitat for some thirty-four species of birds, all of which are typical of almost any woodland in northern Bedfordshire. A further two species, namely Lesser Whitethroat, *Sylvia curruca*, and Corn Bunting, *Emberiza calandra*, include the edge of the wood in their territories but actually breed in an adjacent hedgerow and corn-field respectively. Non-breeding species recorded in the wood total at least twelve.

In view of the continuing northward expansion of Bedford, and the establishment of Mowsbury Park, the wood is becoming increasingly accessible, and will have to withstand more intensive public use. During 1969 the Society's Council felt that it was a matter of urgency to draw the attention of the Borough Council to the dangers, as well as to the potentialities, of having such an interesting woodland actually within the town's boundaries, and to seek reassurances concerning the Council's future intentions towards it. Our approach to the authorities met with an immediate and sympathetic response, and it is gratifying to be able to report that, as a result of several meetings with the Society's representatives, the Borough Council has accepted a number of important proposals; the principal one concerns the preparation of a Management Plan for the wood, to be drawn up by the Nature Conservancy, and to be carried out under the joint control of the Borough Council and the Society. This plan will include the re-establishment of the former coppicing cycle, and will remedy the many past years of neglect in other ways, thus taking the necessary steps to restore the most favourable conditions for the species now present there.

The Society's official interest and participation in the scheme is really only just beginning, for, in addition to acting in future as advisers to the Corporation, it will be an obligation for the Society to carry out surveys of the wood and its contents, year by year, in order to assess the effects of all that has been done, and to record any changes brought about. Furthermore, many branches of natural history are at present unrepresented in the survey, such as fungi and diptera, and provide opportunities to those in search of a fresh line of enquiry.

This is the first time that the Society has found itself in the position of using its specialised knowledge to advise a local authority in this way, but we are sure that members will be pleased to learn of a development which can do nothing but good to the Society's future reputation and status.

## SOME BEDFORDSHIRE HEMIPTERA AUCHENORHYNCHA

By V. H. CHAMBERS

Mainly arising from chalk grassland studies, I am putting on record the following species of frog-hoppers, of which the cuckoo-spit hopper is probably the best known. This group of insects is a good one for naturalists, as although many of the species are widespread and even very abundant, little really definite is known of the life history and food plants of quite common species: there is much opportunity for original field-work here. Although all are small, some of them are gaily coloured, lively and attractive insects: from their odd appearance and behaviour, they have always seemed to me to be the comics of the insect world. The recently published Handbooks of the Royal Entomological Society of London, written and profusely illustrated with excellent keys by Dr. W. J. Le Quesne, now make identification possible, although it must be admitted that this is difficult in some genera.

### CICADOMORPHA

CERCOPIDAE. *Aphrophora alni* (Fallen), Felmersham N.R.; Totternhoe L.N.R.; Flitwick Moor. *Philaenus spumarius* (L.), "Cuckoo-spit", widely distributed in a variety of colour forms on grasses and low herbs. *Neophilaenus lineatus* (L.), abundant on grasses throughout the chalk downland and in woodland rides. *N. exclamationis* (Thun.), Barton Hills, grazed turf.

CICADELLIDAE. *Graphocephala coccinea* (Forst.), on *Rhododendron* in King's Wood, Heath and Reach: this brightly coloured, introduced hopper is often seen on this plant. *Cicadella viridis* (L.), another handsome green or purplish hopper (in the adult), on rushes at Felmersham N.R. and Maulden Wood. *Evacanthus acuminatus* (Fab.), Totternhoe L.N.R., in mixed grassland. *Idiocerus stigmaticus* Lewis, near Eversholt, on *Salix fragilis*. *I. laminatus* Flor., on aspen, Flitwick Moor; Kings' Wood, Heath and Reach. *I. populi* (L.), with the previous species in both localities. *Batrachomorphus irroratus* Lewis, on rockrose at Sharpshoe Clappers, Barton Hills, Eaton Bray (Bison Hill). *Iassus lamio* (L.), Aspley Heath, on oak; Maulden Wood; Flitwick Moor, taken in mercury vapour trap on 2.8.69 (B.N.H.S. meeting). *Oncopsis tristis* (Zett.), Kings' Wood, Heath and Reach, on birch. *O. flavicollis* (L.), abundant on birch, Flitwick Moor and Kings' Wood. *Macropsis scutellata* (Bohe.), Sharpshoe Clappers, on nettles. *M. infuscata* (Sahl.), Colworth. *Agallia venosa* (Fallen), Totternhoe L.N.R., mixed grasses. *Aphrodes bicinctus* (Schr.), abundant on ungrazed chalk downlands. *A. bifasciatus* (L.), Sharpshoe Clappers, mixed grasses with rich flora. *A. flavostriatus* (Don.), Eaton Bray downs, in *Bromus erectus* grassland. *A. fuscofasciatus* (Goeze), Dunstable Downs, *Bromus* grassland. *A. albifrons* (L.), Eaton Bray Downs, in *Bromus* grassland; Whipsnade Heath, in *Dactylis/Arrhenatherum* grassland. *Arocephalus punctum* (Flor.), abundant in mixed grassland, Totternhoe L.N.R.; Eaton Bray Downs; Sharpshoe Clappers. *Turrulus socialis* (Flor.), abundant throughout the chalk downland area, both in grazed and *Bromus*-dominated grassland. *Errastunus ocellaris* (Fallen), Maulden Wood. *Jassargus pseudocellaris* (Flor.), Sandy Lodge, in *Deschampsia flexuosa*. *Arthaldeus pascuellus* (Fallen), Dunstable Downs; Totternhoe L.N.R., in coarse grasses. *Rhytistylus proceps* (Kirsch.), at the base of mixed grasses, and *Bromus*; Totternhoe L.N.R.; Sharpshoe Clappers;



Eaton Bray Downs. *Allygus modestus* Scott., on ash, Totternhoe L.N.R. *Euscelis incisus* (Kirsch.), Sharpenhoe Clappers; in *Brachypodium/Festuca*, Totternhoe L.N.R. *Streptanous sordidus* (Zett.), in coarse grasses, Whipsnade Heath. *Macustus griseus* (Zett.), at base of *Festuca*, Totternhoe L.N.R. *Paluda adumbrata* Sahl., Totternhoe L.N.R.; Sharpenhoe Clappers; Eaton Bray Downs; all in grassland. *Mocycdia crocea* (H.-Sch.), abundant throughout the chalk downs on *Bromus erectus*; and on *Brachypodium sylvaticum* at Totternhoe L.N.R. *Mocycdiopsis attenuata* (Germ.); much less abundant in the same localities as the previous species, and probably also attached to *Bromus*. *Speudotettix subfuscus* (Fallen); Maulden Wood. *Cicadula frontalis* (H.-Sch.), Felmersham N.R. *Elymana sulphurella* (Zett.), Totternhoe L.N.R.; Sharpenhoe Clappers; Maulden Wood.

#### FULGOROMORPHA

CIXIIDAE. *Cixius pilosus* (Oliv.), Sharpenhoe Clappers. *C. nervosus* (L.), path to Noon Hill, Pegsdon.

DELPHACIDAE. *Stenocranus minutus* (Fab.), at base of grasses; Eaton Bray Downs; Totternhoe L.N.R. *Kelisia guttula* (Germ.), Sharpenhoe Clappers, base of mixed grasses. *K. vittipennis* (Sahl.), throughout the chalk downlands, often abundant at the base of *Festuca* and other grasses. *Eurysa lineata* (Perris), Sharpenhoe Clappers. *Conomelus anceps* (Germ.), swept from low herbage, Maulden Wood. *Delphacodes pellucida* (Fab.), Sharpenhoe Clappers; Maulden Wood; Galley Hill, Streatley; Flitwick Moor, taken in mercury vapour trap on 2.8.69 (B.N.H.S. meeting). *Dicranotropis hamata* (Bohe.), Sharpenhoe Clappers, associated with *Carex flacca*; Eaton Bray Downs.

### JAMES M. McC. FISHER — 1912-1970

The news of James Fisher's tragic death just as we go to press has saddened naturalists everywhere and none more so than those who were concerned with the founding of our Society in 1946. Several of us recall with pleasure our visit to his lovely home in Northamptonshire at that time, and it was on 14th November 1946, shortly after our inaugural meeting, that he gave us our first lecture, an inspiring talk on the functions of a Natural History Society. Although we have seen little of him in recent years his interest in our affairs continued undiminished and he remained a full member of our Society from 1946 until his death. We have indeed lost a good friend.

F. G. R. SOPER.

## NEW MEMBERS

a Associate

j Junior

s Student

- Ashfield, A. G., 50 Willow Way, Leagrave, Luton.  
 sBaxter, Miss J., La Escala, Oak Way, Studham, Dunstable, Beds.  
 aBonham, Mrs. M. R., 32 Heronscroft, Bedford.  
 Bonham, P. F., 32 Heronscroft, Bedford.  
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 Bugby, G. D., 11 Berry Drive, Bromham, Bedford.  
 jBurns, N., 42 Lockington Crescent, Dunstable, Beds.  
 Burton, C. W., 85 High Street, Pirton, Hitchin, Herts.  
 jChapman, Miss C., 6 Ennerdale Avenue, Dunstable, Beds.  
 jChapman, Miss N., 6 Ennerdale Avenue, Dunstable, Beds.  
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 Ford, A. G., 16 Abbey Drive, Luton.  
 aFord, Mrs. P. J., 16 Abbey Drive, Luton.  
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 Gray, A. K., 25 Princes Street, Dunstable, Beds.  
 Hemsley, Miss W., 35 Kimbolton Road, Bedford.  
 Hooper, P. A., 14 King Edward Road, Bedford.  
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 Jackson, Mrs. C. E., 8 Park Rise Close, Harpenden, Herts.  
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 jLear, D. E., 49 Dellmont Road, Houghton Regis, Dunstable, Beds.  
 jLynch, J.P., 82 Churchfield Road, Houghton Regis, Dunstable, Beds.  
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Skinner, C. R., Bromham Hall, Bedford.  
Smith, Mrs. N., White Lodge, Stow Longa, Hunts.  
Snow, Mrs. J. D., 95 Katherine Drive, Dunstable, Beds.  
Spare, R., Home Farm, Milton Bryan, Woburn, Bletchley, Bucks.  
Spring, Mrs. E. B., 37 Hawthorne Avenue, Bedford.  
fWinter, S. F. J., 94 Churchfield Road, Houghton Regis, Dunstable, Beds.

## DEATHS

It is with deep regret that we record the deaths of the following members of the Society.

In June, 1969, Mr. E. Lucas, of Bedford, a member since 1946.

In August, 1970, Mr. W. G. Goldstraw, of Bedford, a member since 1962.

In October, 1970, Mr. J. M. McC. Fisher, of Ashton, Northamptonshire, a member since 1946.