

MAMMALIA

Insectivora

Talpa europaea L. Mole. Many fresh molehills south of Pangbourne, 4.4.71; also in Crowsley Park, 30.6.71; dead moles at Twyford gravel pit, 13.4.71, Manor Farm, 19.6.71 and Theale gravel pit 19.9.71 (all ZK). Molehills at Gallows Common, Peppard Common, Sonning Common and Twyford in January and February. All these sites are on gravel, and the same is true of most of the other localities near Reading where moles have been recorded. They also agree with earlier observations in being either river valleys or level uplands, the intervening slopes being unrepresented.

Sorex araneus L. Shrew. Several spring and autumn records in the Tilehurst area from ZK. (February, March, August and October). Heard at Chalkhouse Green, Marley Tile pits and east of Goring in April, Moor Copse and Sonning Common in May, Bishopsland Farm south of Sonning Common, 15.7.71. One dead at Pangbourne, 2.9.71.

S. minutus L. Pygmy Shrew. None seen by ZK or myself. An adult male found dead at Bearwood, 11.4.71 by BTP, one at Southcote, 8.6.71 (AF).

Neomys fodiens Pennant Water Shrew. On bank of Kennet above Burghfield Bridge, 16.6.71 (BRB).

Erinaceus europaeus L. Hedgehog. 3 records in Tilehurst, 4.4.71, 11.5.71 and 28.5.71 (ZK) of which the first only was a road death. Common at Newbury (RSJH) and Priestwood near Bracknell (Mrs. Dalton), 2 dead on the road at Spencer's Wood, 29.5.71, one dead in Emmer Green, 8.7.71, one dead in Sonning Common, 12.7.71, 2 dead in Caversham Heights, 22.7.71 and 3.9.71. As last year, the species is still abundant but road casualties are less than formerly.

Chiroptera

Pipistrellus pipistrellus (Schreber) Pipistrelle. One flying by day near Aldermaston Wharf gravel pit, 27.3.71; one flying round the Abbey ruins by day, 11.4.71; one at Chapel Hill, Tilehurst, 11.4.71, 19.9.71, five there 9.10.71 (all ZK). An unidentified small bat near Birchen Copse, Riseley, 15.4.71, and two unidentified large bats at dusk at Theale gravel pit, 7.9.71.(ZK).

Carnivora

Vulpes vulpes (L.) Fox. Several records from the Sulham area from 21.12.70 to 8.5.71; one seen at close range in Whiteknights Park at dusk, 10.3.71; four cubs playing and feeding on the remains of a farmyard goose at Hattonhill Shaw, Gatehampton,

16.5.71; an adult seen repeatedly carrying an object in its mouth in Birchen Copse, Riseley, 30.5.71 (all ZK). A male killed by a car in Greys Green Road, Rotherfield Greys, 15.1.71 and collected by Mrs. Nawell.

Droppings at Heckfield Heath, 29.5.71. One seen at Bishopsland Farm, south of Sonning Common, 13.9.71. One dead on the A4 by the Travellers' Friend, Calcot, 11.8.71 and a female seen daily between 8 and 10 p.m. in the observer's garden at Padworth, 1.9.71 to 22.9.71 (MJH).

One seen at Warwick Road, Reading, 22.5.71 and 25.5.71 (GAB).

Meles meles (L.) Badger. Status in the Sulham area unchanged, with the usual pattern of some setts becoming disused and others developed. Not yet affected by forestry operations (ZK). A female (as usual) killed on the road, the B3024 near White Waltham, 28.3.71. One dead at Downe House School, north of Newbury, where there is a sett in the grounds, 6.4.71. Two adults collecting bedding and two cubs playing at Stonycroft Plantation sett 20.00 - 20.50 B.S.T. on 8.4.71 (EMT).

Mustela erminea (L.) Stoat. One adult at Sonning Eye gravel pit, 2.4.71 (ZK).

M. nivalis L. Weasel. Four records from the Kennet valley (Theale to Aldermaston) 4.11.70 to 25.4.71. An animal at Binfield Heath, 8.7.71, displaying characteristic curiosity, making repeated forays from cover to watch the observer over 5 minutes; one dead on A329 at Basildon; one crossing the Woodcote road at the Pack-Saddle, 28.8.71 (all ZK). One Hazelmoor Lane, Sonning Common, 24.1.71 One found dead at Swyncombe, 25.11.70.

Artiodactyla

Cervus dama (L.) Fallow Deer. Nine in Hungry Hill Wood, Wormsley Park (Chilterns near Bucks. border), 16.12.70 (ZK). One of the dark phase at Goring Heath, 24.12.70 (AL). Six feeding in coniferous woodland at Nuney Green, 16.5.71 (ZK). Two seen feeding in field then crossed lane into Birchen Copse, Riseley, at 20.30 B.S.T. on 15.4.71 (ZK). A buck with fine antlers in Bramshill Forest, 30.5.71 (ZK).

A doe surprised at close quarters by the RDNHS excursion to Clayfield Copse, Emmer Green, made off across an open field to the north, where there is no cover, 15.5.71. (Tracks had already been seen in Clayfield Copse but until we saw the animal

I was hardly prepared to believe in the presence of deer in this small and much-frequented piece of woodland on the edge of a built-up area.) Tracks seen in Sulham Wood, 5.8.71 (ZK).

Muntiacus reevesi (Ogilby) Muntjac. One seen in Rumerhedge Bottom, Goring Heath, 2.2.71 (Mr. Taylor). One seen on several occasions near Berkeley Avenue Reading up to 27.6.71 (DW). A mangled corpse with short antlers by the Goring Heath road near Collegewood Farm was probably of this species, 1.10.71 (ZK). (Unidentified deer near Inkpen were probably C. dama, 28.4.71 (RAR)).

LAGOMORPHA

Lepus capensis Pallas Brown Hare. One on fields near Marley Tile gravel pit, 27.10.70, two there, 27.3.71, one 9.4.71 (ZK). One there 30.4.71. One by Theale gravel pit, 6.12.70 (ZK). Two at Manor Farm, 15.3.71, one there, 14.7.71 (ZK). One at Sonning Eye gravel pit, 13.4.71 (ZK). One at Summerhouse Plantation, Binfield Heath, 8.7.7. (ZK) and many records from Bishopsland Farm south of Sonning Common as usual, but less numerous than in some previous years (maximum five on 29.1.71.).

Many records from Berkshire Downs, maximum ten on 7.7.71. (ZK).

Oryctolagus cuniculus (L.) Rabbit. ZK provide many records from all the areas where they have been most active during the year, principally the Sulham area, the Kennet valley from Marley Tile Pit eastwards, and the Thames valley from Goring to Twyford. Most of these relate to single animals, a few to two or three together. Higher numbers were four at Theale gravel pit, 25.4.71, seven in Englefield Park, 25.8.71, eight at Burghfield gravel pit, 15.11.70, and over 15 in the Sulham area, 8.5.71, and in Crowsley Park east of Sonning Common, 30.6.71 (also ten there on 8.7.71.). Other records include many from the area between Sonning Common and Reading, and from the areas covered by ZK including ten at Marley Tile Pit, 30.4.71., 7-8 at Cane End, 16.5.71., and south of Reading at Burghfield Common and Heckfield Heath.

ZK report two cases of myxomatosis, at Sulham on 1.1.71. and at Theale gravel pit on 6.9.71.

RODENTIA

Muscardinus avellanarius (L.) Dormouse. A colony of this species was discovered during 1971

in a hedge of Symphoricarpus rivularis Suksdorf, Snowberry, near Tadley (LC). Most of the records of this species in recent years have been from the southern side of the Kennet Valley. It is also reported from the High Wycombe district outside the range of the RDNHS.

Sciurus carolinensis Gmelin Grey Squirrel. ZK supply a total of 75 seen in the Sulham-Tilehurst area during the year, but never more than three at a time. They also found it common around Binfield Heath in July. Records were if anything more frequent during the winter months, when of course the animals (when active at all) feed more often on the ground and are easier to see when in trees. My own impression is that the species occurs in virtually every wood in the Reading area where beech Fagus sylvatica L. or oak Quercus robur L. are present. Other Quercus spp. may also be able to support it but this I cannot confirm. Large numbers are found only when there are mature oaks in the vicinity.

Rattus norvegicus Berkenhout Brown Rat. Recorded by ZK at the Kennet Valley gravel pits and as road casualties elsewhere. (Theale, Pincents Hill, Appleford) Also seen dead on the Peppard Road as in past years.

Mus musculus L. House Mouse. The only record received was from ZK - one dead at Chapel Hill, Tilehurst, 16.7.71.

Arvicola amphibius (L.) Water Vole. Several records from the Kennet valley in spring and autumn (ZK). Common on the Thames near the Nautical College boathouse, Pangbourne (JS).

Microtus agrestis (L.) Short-tailed Vole. One in Cornwell Copse near Tilehurst, 1.1.71, and one on a hedge-bank opposite Hill Copse, Sulham, 17.3.71 (ZK). One at Gallowstree Common, 26.8.71, and one dead on the site of the old Southern Railway bridge over Vastern Road, Reading, 27.8.71.

Clethrionomys glareolus (Schreber) Bank Vole. One sitting outside its hole in Barefoots Copse, 13.3.71. One dead at Theale gravel pit, 15.3.71. (both ZK).

Contributors:

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G. A. Bell	R. L. Nicholls
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The Recorder's Report for Entomology

1970 - 71

by B. R. Baker

Order Plecoptera (Stone-flies)

Less than a dozen species of stone-fly have been recorded from the Reading area, for our lowland rivers and streams cannot duplicate those conditions afforded to stone-flies on rivers in the north and west of Britain. However, our River Kennet holds the quite impressive species Perlodes microcephala (Pict.). Male Perlodes have very abbreviated wings and specimens should be sought in the cracks of bridge piles, lock gates, etc. Two specimens were found on 20th April at 11.15 p.m. below the wooden bridge over the Kennet at Woolhampton; (see Reading Naturalist No. 13 for notes on this species at Woolhampton in 1960).

Order Odonata (Dragon-flies)

The long spell of sunny weather from late August until mid-November provided ideal conditions for dragon-fly flight, and it proved possible, and enjoyable, to observe a number of species in some abundance. Our first record is, however, of an early summer species.

Gomphus vulgatissimus (L.) Club-tail Dragon-fly

Mr. Price and some members of his class, who had been working the banks of the Thames near Earley Power Station on 29th May, were fortunate to find a fine example of this uncommon species, which they presented to the Museum's reference collection.

Aeshna mixta Lat. Scarce Aeshna

Mr. Gambles took a specimen on the occasion of the Society's excursion on 4th September; later in the month, 20th September, the species was numerous on a Kennet backstream beyond Southcote where females were observed ovipositing in stems of Typha at a point well above that of the present water level. The brilliant blue males of A. mixta were abundant on the gravel pits at Burghfield on 2nd October and a few were still present at the same locality on 23rd October.

The celebrated Fishpond on Wokefield Common was alive with dragon-flies when this locality was visited on 2nd October. The following species were seen:-

Aeshna cyanea (Muell.) Southern Aeshna; A. juncea (L.) Common Aeshna, (a single specimen); Sympetrum striolatum (Charp.) Common Sympetrum, abundant, with pairs flying in tandem; and S. danae (Sulz.) Black Sympetrum. From Owlsmoor Bog near Crowthorne we record Orthetrum coerulescens (F.) Keeled Orthetrum past their best on 11th September, with A. juncea very fresh on the same date.

Order Trichoptera (Caddis-flies)

The odd looking little caddis Chaetopteryx villosa (F.) was noted along the banks of the River Pang within the Moor Copse Nature Reserve near Tidmarsh on 15th November, 1970. Specimens were still to be seen as late as 29th November.

Order Lepidoptera (Butterflies and Moths)

Immigrant Species

Vanessa atalanta (L.) Red Admiral

Very few recorded, viz: Stratfield Saye, 12th May, and on Buddleia at Earley, 6th and 8th August (B.T.P.)

Vanessa cardui (L.) Painted Lady

A single specimen seen on Buddleia at Earley on 1st September and another on Asters in Parkside Road, Reading, 5th October (B.T.P.).

Acherontia atropos (L.) Death's Head Hawkmoth

A perfect example of this immigrant was brought to the Museum by Mr. Adrian Searle who had discovered the moth upon a line of washing at Clayhill, Burghfield on 27th August.

Herse convolvuli (L.) Convolvulus Hawkmoth

Mr. M. Palles-Clark of Leighton Park School reported an example of this uncommon immigrant being found at Tilehurst on 1st or 2nd October.

Resident Species

Gonepteryx rhamni (L.) Brimstone butterfly

This butterfly is said to be the longest lived of any British species, its life frequently extending to a year. The single brood appears in July or August and the butterflies usually enter hibernation shortly after emergence. However, we have records of three late-fliers in 1970:- a female seen in St. Peter's Churchyard on 5th November, and two males (locality not given) on 24th November. Given favourable weather brimstones reappear again from late February onwards, but with the bitter weather of early March, 1971 (the 6th being the coldest March day for 30 years), it was not until 27th March that these brilliant yellow butterflies were observed in Pamber Forest in any numbers.

Celastrina argiolus (L.) Holly Blue

Although not as frequently seen as in 1970, this species had quite a good year with several sightings across Caversham gardens between 2nd and 9th May and again on 1st August.

Strymonidia w-album (Knoch) White-letter Hairstreak

This little hairstreak has long been known from the Hardwick-Goring Heath area, and it is evidently still in strength in that region. From the same line of wych elms where we were shown our first larvae 25 years ago, it proved comparatively easy to beat a quantity for breeding purposes on the evening of 13th May.

Euchloe cardamines (L.) Orange Tip

Observed in a garden at Earley on 1st and 2nd June, and 3rd- and 4th-instar larvae found at Dunsden on 23rd June (B.T.P.).

Limenitis camilla (L.) White Admiral

This beautiful butterfly had a splendid season in 1971 and the Recorder had never seen such quantities as were on the wing in Pamber Forest on 10th July. Specimens were still on the wing on 18th August (though obviously worn); careful searching produced a 3rd-instar larva on 6th September and a further example on 13th September (B.T.P.).

Apatura iris (L.) Purple Emperor

We have several records of this fine species: larvae from Pamber Forest on 29th May, 2nd and 6th June; a female imago observed sitting low down on an alder leaf on 17th July; a female flying around sallows on 18th July (R.L.), several males observed around oaks also on 18th July. Of special interest is the finding of a 3rd-instar larva by a careful search of sallows on 6th October (B.T.P.).

Argynnis aglaia (L.) Dark Green Fritillary

Watlington Hill, several observed on 7th July, (B.T.P.).

Aglais urticae (L.) Small Tortoiseshell

An extreme variety of this colourful species was observed by our President at East Hendred on 11th September; Miss Cobb continues in her note "Small Tortoiseshells became very numerous in late summer". (Varieties of this species are rarely encountered - the Recorder only ever sees normal ones!).

Leucoma salicis (L.) White Satin Moth

On 17th July a single example was attracted to mercury-vapour light on the Kennet bank between Newbury and Thatcham.

Plusia chryson (Esp.) Scarce Burnished Brass

Several examples to light 17th July, at the above locality.

Gypsites leucographa (Schiff.) The White-marked

A first record from Woolhampton reed-bed was made on 20th April; yet this locality has been worked frequently by local entomologists over the past 20 years without species ever being seen.

Bapta distinctata Herr. Schaff. Sloe Carpet

A single example taken at Dr. M. I. Crichton's Rothampsted trap at Mortimer on 22nd/23rd April. This is a notable record; apart from an example in the Sitwell Collection in Reading Museum (from near Wokingham) we have no previous indication of this moth's existence in the Reading District.

Aegeria formicaeformis (Esp.) Red-tipped Clearwing

Larvae were discovered in osier stumps at Woolhampton on 17th April, and several pupal cases from which adults had emerged were seen at the same locality on 31st May. Careful searching low down among osier stumps revealed a newly emerged moth on 2nd June.

Aegeria myopaeformis (Borkh.) Red-belted Clearwing

Mr. Price and the Recorder were both able to confirm the continuance of the colonies of this little clearwing in apple trees growing in gardens close to Redlands School. The peak emergence took place between 21st and 25th June.

Aegeria andreaeformis (Lasp.) Orange-tailed Clearwing

Larval borings were discovered in wayfaring trees at Garson's Hill, Oxon. on 4th April. From one cutting taken an adult moth emerged on 19th May.

Aegeria vespiformis (L.) Yellow-legged Clearwing

Clearance of oaks is seldom welcomed by naturalists; we

merely record that felling near Oval Pond, Padworth, has created a favourable habitat for A. vespiformis and that larvae were discovered in the stumps when searched for on 5th May. These produced moths on 23rd and 29th May.

Order Coleoptera Beetles

Lucanus cervus (L.) Stag Beetle

Mr. W. L. South of Streatley wrote to the Museum with the following interesting observation: "About 10 a.m. on the 6th July I opened my kitchen door to the garden and was astonished to find 5 stag beetles in an empty 1½ gallon bucket. They were crawling round but could not get up the slippery sides, and there was no room for a flying take-off. There were 4 beetles with 'horns' ... but there was one beetle with no 'horns'; I assume that the 4 were males and the 5th a female". This interesting observation is indicative of the nocturnal flight activity of these large beetles which one is sometimes able to witness around dusk on a warm summer evening. (See Mr. Leatherdale's observations in Reading Naturalist No. 16. p. 17). Mr. South's observation relating to the sexes of the specimens is, of course, correct.

Order Diptera (True Flies)

The detailed list relating to this Order has been submitted to the Recorder by Mr. H. H. Carter and embodies records made on behalf of Dr. E. Burtt, Mr. Roger Leeke and by Mr. Carter himself. The Diptera is the second largest Order of British Insects and contains upwards of 5,000 species. The records submitted, although numerous and frequently concerning common species, all merit inclusion in the Report. Except where indicated they relate to species new to the Reading Museum Collection of Diptera and it is very satisfying to know that this Order is now being worked by local entomologists.

Tipulidae.

Tipula pruinosa Wiedemann; female, 18.6.70, Goring Heath (EB).

Limnophila meigeni Verrall; female, 14.7.71, Wokefield Common (HHC).

L. lucorum (Meigen); female, 14.7.71, Wokefield Common (HHC).

Molophilus griseus (Meigen); female, 20.5.70, Goring Heath (EB).

Trichoceridae.

Trichocera fuscata Meigen; female, 20.9.70, Reading (EB).

T. hiemalis (Degeer); male, 25.11.70, Reading (EB).

Chironomidae.

Chironomus dorsalis Meigen; male, 13.10.70, female, 20.10.70, Reading (EB).

Stratiomyidae.

Pachygaster leachii Curtis; female, 4.8.70, Wokefield Common (EB).

Acroceridae.

Acrocera globulus Panzer; female, 18.7.71, Pamber Forest (R. G. Leeke). This family has only three British species, which are seldom collected but are biologically interesting as brood-parasitoids of spiders.

Scenopinidae.

Scenopinus niger (Degeer); female, 10.7.70, Reading (EB).

Syrphidae.

Chrysogaster macquarti Loew; both sexes, 29.5.70, Wokefield Common (HHC).

Criorhina ranunculi Panzer; female, 15.5.71, Nuney Green (EB).

Microdon eggeri Mik; female, 6.6.71, Wokefield Common (EB).

Two further species of Syrphidae -

Syrphus lineola Zetterstedt and

Helophilus frutetorum F. have been discovered among older material taken in 1967 when they were confused with other species.

Ulidiidae.

Ulidia erythropthalma Meigen; male, 4.7.70, Goring Heath, (EB).

Trypetidae.

Anomoia permunda (Harris) reported by R. G. Leeke without date or place. (This specimen is not in Reading Museum).

Hippoboscidae.

Stenopteryx hirundinis (L.); female, 1.7.71, Reading (Mr. Wyeth).

Much less frequent in the Reading area than

Crataerina pallida (Latreille). The two species are brood-parasites of martins and swifts respectively.

Tachinidae.

Lydina aenea (Meigen); female, 29.7.70, Goring Heath (EB).

Macquartia praefica (Meigen); female, 30.6.70, Wokefield Common (EB).

- Eumea westermanni (Zetterstedt); male, 22.6.70, Reading (EB).
Winthemia quadripustulata (F.) a male and two females bred from larvae of
Cucullia verbasci (L.) on display in Reading Museum. (From B. T. Parsons at Earley.)
Actia crassicornis (Meigen); male, 8.8.70, Wokefield Common (EB).
Tachina erucarum Rondani; male, 27.8.71, Reading (EB).
Voria trepida Meigen; three females, 27.8.70, Wokefield Common (EB).
Rhacodineura pallipes Fallen; male, 20.7.71, Reading (EB).
Siphona maculata Staeger; male, 1.5.71, Goring Heath (EB).
S. cristata (F.); female, 31.7.71, Reading (EB).
Parafeburia maculata (Fallen); female, 17.8.70, Wokefield Common (EB).

Calliphoridae.

- Melanophora roralis (L.); two males, 22.6.70, Reading (EB).
Styloneuria discrepans (Pandelle); female, 8.7.70, male, 27.6.71, Reading (EB).
Pachyophthalmus signatus (Meigen); male, 28.7.70, female, 27.6.71, Reading (EB).
Sarcophaga aratrix Pandelle; several records of both sexes 1970-1971 (EB, HHC).

- S. carnaria (L.); males, 27.7.71, Goring Heath and 21.9.71, Wokefield Common (HHC).

This is the common species of the text-books, but is clearly much less numerous in our area than S. vulgaris Rohdendorf or S. subvicina Rohdendorf with which it was formerly confused. (The females are still regarded as inseparable.)

- S. dissimilis Meigen; both sexes from Goring Heath, 22.7.70 - 30.7.70 (EB).
S. frenata Pandelle; female, 25.7.70; male, 29.7.70, Goring Heath (EB).
S. haemorrhoea Meigen; male, 20.7.71, Wokefield Common (HHC), female, 26.8.71, Goring Heath (EB).
S. haemorrhoidalis (Fallen); male, 4.8.71, females, 1.9.70 - 10.9.70, Reading (EB).
S. incisilobata Pandelle; male, 17.6.71, Wokefield Common (EB).
S. nigriventris Meigen; females, 3.9.71, Goring Heath (EB).

S. scoparia Pandelle; male, 22.6.71, Wokefield Common (HHC).

S. setipennis Rondani; females, 31.7.70, Caversham Park and
14.9.71, Goring Heath (HHC).

S. subvicina Rohdendorf; many records of both sexes 1970-71 (EB and HHC). The material hitherto ascribed to this species and S. carnaria (L.) in Reading Museum has been re-examined and proves all to belong to S. vulgaris Rohdendorf, a species intermediate between the two, long considered to be merely a sub-species of one or other of them until the accumulation of data on localities and dates showed that it co-exists with both and must be a full species.

Pollenia varia (Meigen); both sexes, 18-19.7.71, Reading, male,
3.9.71, Goring Heath (EB).

Muscidae.

Phaonia gobertii Mik; male, 27.9.70, Reading (EB).

P. pallida (F.); many records in 1970-71 (EB).

P. palpata (Stein); male, 25.5.70, female, 30.7.70, Reading (EB).

P. rufipalpis (Macquart); female, 12.9.71, Nuney Green (EB).

P. serva (Meigen); male, 1.5.71, Reading (EB).

P. trimaculata (Bouche); male, 30.8.70, Reading (EB).

Dendrophonia querceti (Bouche); female, 22.9.70, male,
18.7.71, Reading (EB).

Pogonomyia decolor Fallen; female, 20.7.71, Wokefield Common (EB).

Ophyra leucostoma (Wiedemann); several records in 1970 (EB and HHC).

Hydrotaea cyrtoneurina (Zetterstedt); males, 8.7.71, Nuney Green (EB). Not new to the Reading Museum collection, but apparently a county record for Oxfordshire.

H. irritans (Fallen); female, 3.8.70, Wokefield Common. It is remarkable that this species should so long have escaped capture: it is not only very abundant, but makes itself unpleasantly obtrusive.

H. occulta (Meigen); male, 9.10.70, Reading (EB).

Mydaea ancilla (Meigen); male, 3.9.70, 2 College Road (EB). Apparently new to Berkshire.

M. discimana Malloch; male, 22.7.71, Goring Heath (HHC). New to Oxfordshire.

M. setifemur Ringdahl; female, 22.7.71, Goring Heath (HHC). New to Oxfordshire.

- Helina communis Robineau-Desvoidy; female, 20.7.71, Wokefield Common (EB).
- Hebecnema affinis Malloch; female, 24.9.70, Reading, (EB).
- H. vespertina (Fallen); females, 22.9.70 - 24.9.70, Reading (EB).
- Spilogona denigrata (Meigen); male, 15.6.71, Wokefield Common (HHC).
- Allognosta agromyzina (Fallen); females, 21.9.70 and 9.10.70, Reading (EB).
- Coenosia lineatipes (Zetterstedt); females, 30.8.70 - 16.10.70, Reading (EB).
- C. tricolor (Zetterstedt); males, 16.9.70 - 1.10.70, female, 1.10.70, Reading (EB).
- Caricea humilis (Meigen); females, 25.9.70 - 18.10.70, males, 28.8.70 - 1.10.70, Reading (EB).
- Piezura graminicola Zetterstedt; female, 15.10.70, male, (? date) 1971, Reading (EB).
- Fannia armata (Meigen); several records of both sexes 1970 - 1971 (EB and HHC).
- F. aequilineata Ringdahl; females, 4.9.70, males, 1.10.70, Reading (EB).
- F. manicata (Meigen); male and female, 16.9.71 - 18.9.71, Reading (EB).
- F. pallitibia (Rondani); females, 4.9.70 - 22.9.70, Reading (EB).
- F. polychaeta (Stein); three females, 16.7.70 - 22.7.70, Goring Heath (EB).
- F. rondanii Strobl; male, 18.5.71, Nuney Green (HHC).
- F. similis (Stein); female, 22.7.71, Nuney Green (HHC).

We acknowledge our indebtedness to the Director of Reading Museum for allowing us every facility to incorporate such Museum records as we wished, and also express our best thanks to the following contributors:

Dr. E. Burtt	Mr. R. M. Gambles
Mr. H. H. Carter	Mr. Roger Leeke
Miss L. E. Cobb	Mr. B. T. Parsons
Dr. M. I. Crichton	Mr. A. Price

The Recorder's Report for Botany

1970 - 71

by B. M. Newman

Fewer records were received this year. Those sent in by the following members are gratefully acknowledged:- Dr. H. J. M. Bowen (HJMB); Mr. H. Carter (HC); Miss L. E. Cobb (LEC); Mrs. E. M. Trembath (EMT); Dr. J. Toothill (JT); Miss J. M. Watson (JMW):

The nomenclature and order are according to the "Flora of the British Isles" by Clapham, Tutin and Warburg, 2nd edition 1962. An alien taxon is indicated by an asterisk (*) and a new county record by a cross (+). English names in common use have been given where possible and more recently invented names are put in quotation marks.

Miss Cobb sent a record of Papaver hybridum, a plant described as rare in the "Flora of the British Isles" (Clapham, Tutin and Warburg), and said to be decreasing in Berkshire in the "Flora of Berkshire (H. J. M. Bowen).

Dr. Bowen sent lists of plants found on Woodley and Smallmead tips, and Mr. Carter a list of plants found in Nuney Green chalk pit. These plants are placed at the end of the report as they are more interesting considered together than as separate records.

Dr. Toothill has very kindly pointed out an error in the previous issue of the Reading Naturalist (No. 23). On page 35, the location for Chrysanthemum segetum L. should be "Field near Aston", and "Marshy ground near the river Loddon" refers to another plant, Thalictrum flavum L. which was accidentally omitted when my typewritten copy was made.

List of Members' Records

Asplenium adiantum-nigrum L. 'Black Spleenwort'
Cuxham. (LEC)

Asplenium ruta-muraria L. Wall-Rue
Cuxham; Little Milton. (LEC)

Papaver hybridum L. 'Round Prickly-headed Poppy'
Cornfields below Thurle Down. NHS walk. (LEC)

Fumaria micrantha Lag.
Thurle Down. NHS walk. (LEC)

Viola odorata L. Sweet Violet
Swyncombe Downs, near Worth Farm. (LEC)

- Hypericum montanum L. 'Mountain St. John's Wort'
Stonor Park. (HJMB)
- *+ Silene muscipula L.
One plant in pavement crevice at AERE, Harwell, Berks. (HJMB)
- *Vaccaria pyramidata Medic.
Garden at Caversham. Sent in by R. G. Messenger. (HJMB)
- +Lavatera arborea L. Tree Mallow
Flowered from seedling found at Woodley tip, Berks., in 1969.
(HJMB)
- Geranium lucidum L. 'Shining Cranesbill'
Bere Court Drive, Pangbourne. NHS walk. Found by Dr. B. Kemp (EMT)
- Sanguisorba officinalis L. 'Great Burnet'
One plant seen at Kennet Meadows, Sulhampstead. NHS walk.
(LEC)
- Daphne laureola L. Spurge Laurel
Wood near Quick's Green. (JT)
- Viscum album L. Mistletoe
On Maple, Hawthorn and Apple, Hamstead Park, Berks. (HJMB)
- Thesium humifusum DC. 'Bastard Toadflax'
Widespread on chalk grassland at Gatehampton. (EMT)
- Myrrhis odorata (L.) Scop. Sweet Cicely
Roadside between Stonor and Henley, well established. (HJMB)
- Bupleurum rotundifolium L. Hare's-ear, Thorow-wax
Prospect Street, Caversham. Mrs. Sambrook, 15.8.71. (HC)
- Oenanthe aquatica (L.) Poir. 'Fine-leaved Water Dropwort'
Sulham Pond. (EMT)
- Foeniculum vulgare Mill. Fennel
Roadside, May's Green, Oxon. (HJMB)
- Polygonum bistorta L. Snake-root, Easter-ledges, 'Bistort'
By canal near Hamstead Marshall, Berks. (HJMB)
- Anagallis arvensis L. Scarlet Pimpernel
Pink form at Bradfield Common near the Bladebone. (JMW)
- Vinca minor L. Lesser Periwinkle
Roadside (northside) near Quick's Green.
Roadside (southside) near Thurle Grange. (JT)
- Gentianella germanica (Willd.) Börner
Swyncombe Downs, NHS walk. (LEC)
- Gentianella amarella (L.) Börner Felwort
Swyncombe Downs, NHS walk. (LEC)
- Cynoglossum officinale L. Hound's-tongue
Stonor Park, Oxon. (HJMB)

- Cuscuta epithymum (L.) L. 'Common Dodder'
Chalk grassland, Gatehampton, and Sulham Woods on Lotus.
(EMT)
- Atropa belladonna L. Dwale, Deadly Nightshade
Stonor Park, Oxon. and Blount's Court, Sonning Common,
30.10.70. (Mr. Taylor) (HC)
- Antirrhinum orontium L. Weasel's Snout, Calf's Snout
Churchyard, Pangbourne. Lower Bucklebury Common, NHS walk.
(EMT)
- Linaria repens (L.) Mill. 'Pale Toadflax'
Thurle Down. NHS walk. (LEC)
- Chaenorhinum minus (L.) Lange 'Small Toadflax'
Thurle Down, NHS walk. Plentiful. (LEC)
- Kickxia spuria (L.) Dum. Fluellen!
Thurle Down, NHS walk. Plentiful. (LEC)
- Kickxia elatine (L.) Dum.
Thurle Down, NHS walk. Plentiful. (LEC)
- Orobanche minor Sm. 'Lesser Broomrape'
Plentiful on rough chalk slope west of Stoneycroft Plantation,
Whitchurch, also in pasture, Hardwick Farm. (EMT)
- Verbena officinalis L. Vervain
Thurle Down, NHS walk. (LEC)
- Salvia horminoides Pourr. Wild Clary
Road verge, Whitchurch. Ten fine plants cut when in full
bloom by road cutter. (EMT)
- Lamium amplexicaule L. Henbit
Swyncombe Downs, NHS walk. (LEC)
- Galeopsis angustifolia Ehrh. ex Hoffm. 'Narrow-leaved Hemp-
nettle
Swyncombe Downs, NHS walk. (LEC)
Cultivated field, Tidmarsh. (EMT)
- *Campanula rapunculoides L. 'Creeping Campanula'
Swyncombe Downs. (LEC)
- Campanula glomerata L. 'Clustered Bellflower'
Swyncombe Downs, NHS walk. (LEC)
- Legousia hybrida (L.) Delarb. Venus's Looking-glass
Swyncombe; Thurle Down. (LEC)
- Adoxa moschatellina L. Moschatel, Townhall Clock.
Flint House, Goring, 15.4.71. Wood by Marley Tile pit,
30.4.71 (HC)
- Picris echioides L. 'Bristly Ox-Tongue'
Little Milton. (LEC)

*Nothoscordum inodorum (Ait.) Nicholson
Middle Assendon, Oxon. Found by Mrs. V. N. Paul. (HJMB)

Iris foetidissima L. Gladdon, Stinking Iris
Several plants in wood near Quick's Green. (JT)

Festuca heterophylla Lam.
Roadside through woodland near Pangbourne. Confirmed by Dr.
C. E. Hubbard. (EMT)

Hordelymus europaeus (L.) Harz. 'Wood Barley'
Layfields Copse near Ashampstead. (EMT)

Plants seen at Nuney Green chalkpit, all in about half an acre.
(HC)

Iberis amara L., Wild Candytuft; Polygala calcarea F. W. Schultz;
Rhamnus catharticus L., Buckthorn; Sorbus aucuparia L., Rowan;
Sorbus aria (L.) Crantz; Sorbus torminalis (L.) Crantz, Wild
Service Tree; Blackstonia perfoliata (L.) Huds., Yellow-wort;
Euphrasia nemorosa (Pers.) Wallr.; Odontites verna (Bell.) Dum.,
'Red Bartsia'; Prunella laciniata (L.) L.; Cephalanthera
damasonium (Mill.) Druce, White Helleborine; Anacamptis
pyramidalis (L.) Rich., 'Pyramidal Orchid' - this last species
had several hundred blooms.

Plants seen at Woodley tip. (HJMB)

*Impatiens balsamina L.; *Lupinus arboreus Sims, Tree Lupin;
+Phaseolus multiflorus; *Verbascum phlomoides L.; *Salvia
horminum L.; *Guizotia abyssinica (L.f.) Cass.; +Tetragonia
expansa Murr.

Plants seen at Smallmead tip. (HJMB)

*Amaranthus retroflexus L.; Chenopodium hybridum L.; Sowbane;
*Tropaeolum peregrinum L.; Polygonum patulum Bieb.; *Cannabis
sativa L., Hemp; *Guizotia abyssinica (L.f.) Cass.; +Tagetes
erecta L.; African Marigold; Centaurea diluta Aiton;
*Carthamus tinctorius L.; False Saffron.

WEATHER RECORDS IN 1970

by A. E. Moon

The data refer to Reading University Meteorological Station. This is now situated on the eastern side of Whiteknights Park. Records were discontinued at the main site in London Road on 31st December 1967 after nearly 50 years of almost continuous recording. As the station is an entirely new siting, the averages for the main site station are no longer applicable and are omitted from this summary. A "rain day" is a day on which rainfall equals or exceeds 0.01 of an inch. For the designation of frost and ground frost days see Weather Records in 1961.

STATION - READING UNIVERSITY. HEIGHT ABOVE MEAN SEA LEVEL - 226 ft.

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR
MEAN DAILY TEMPERATURES OF.	MAX.	44.1	44.5	46.1	52.1	65.8	73.0	69.2	70.8	68.0	59.1	53.1	44.3	57.6
	MIN.	34.3	32.4	32.3	37.9	45.9	51.8	52.2	52.9	49.8	44.5	40.5	33.8	42.4
	MEAN	39.2	38.5	39.2	45.0	55.9	62.4	60.7	61.9	58.9	51.8	46.8	39.1	50.0
	RANGE	9.8	12.1	13.8	14.2	19.9	21.2	17.0	17.9	18.2	14.6	12.6	10.5	15.2
	GRASS MIN.	28.0	25.1	24.1	30.8	36.7	41.5	44.9	44.5	39.8	36.8	33.7	28.5	34.6
EXTREME TEMPERATURES OF.	E. MAX.	51	53	56	61	75	84	87	83	79	69	61	54	87
	DATE	22	2, 21, 22	20	17	5, 6	9, 11	7	3	28	11	2	3, 4	July 7
	E. MIN.	18	20	22	26	36	45	42	41	41	33	29	24	18
	DATE	7	15	8	2	18	16	22	18	16	8, 9, 10	16	26	Jan. 7
	E. GRASS MIN.	5	13	9	14	25	33	28	28	28	21	17	17	5
	DATE	4	15	9	2	18	16, 26	22	18	16	22	16	26	Jan. 4
DAYS WITH FROST	FROST	10	13	15	6	0	0	0	0	0	0	2	14	60
	GROUND FROST	19	24	23	18	9	0	1	1	5	13	14	25	152
SUNSHINE HOURS	SUM.	37.0	115.4	117.8	135.7	223.3	278.3	201.1	197.8	164.7	104.6	62.9	50.2	1688.8
	% POSS.	14	41	32	33	47	57	41	44	44	32	23	20	38
	DAILY MEAN.	1.19	4.12	3.80	4.52	7.20	9.28	6.49	6.38	5.49	3.37	2.10	1.62	4.63
PRECIPITATION ins.	AMOUNT	3.60	1.88	1.93	1.95	0.89	3.33	2.61	2.68	2.13	0.52	6.40	1.20	29.12
	RAIN DAYS	26	18	17	25	9	6	16	14	12	9	22	15	189
	MAX. RAIN IN 1 DAY	0.51	0.33	0.51	0.29	0.26	2.38	0.51	0.73	0.46	0.19	0.92	0.35	2.38
	DATE	23	11	23	5	9	11	7	18, 21	12	5	6	3	June 11
	LONGEST RUN OF CONSECUTIVE RAIN DAYS	23	7	4	9	5	2	7	5	9	4	8	7	-
LONGEST RUN OF CONSECUTIVE DRY DAYS	2	3	5	0	10	10	3	7	7	11	3	5	-	
SNOW OR SLEET DAYS	4	7	9	7	0	0	0	0	0	0	0	7	34	
DAYS SNOW LYING	5	6	3	0	0	0	0	0	0	0	0	4	18	
VISIBILITY	FOG AT 0900 G.M.T.	6	0	0	1	0	0	0	1	1	5	1	3	18
THUNDERSTORM ACTIVITY	DAYS OF THUNDER	0	0	1	2	4	5	1	3	0	0	1	0	17
	DAYS OF HAIL	1	1	2	0	0	1	1	0	0	0	0	0	6

MONTHLY WEATHER NOTES, 1970

- January A mild, dull and wet month after a cold start. It was the wettest January since 1948 and the dullest since 1955.
- February A rather cold but very sunny month; it was the sunniest February since sunshine records were started in Reading in 1939.
- March Cold and rather wintry; the coldest March since 1962.
- April The cold weather of March continued into this month and it proved to be the coldest April since 1922 with 1936 the next coldest. Temperature reached 60°F for the first time this year on 16th.
- May A fine and dry month; it was the warmest May since 1964, driest since 1961 and the sunniest since 1966.
- June This was the warmest June since 1960 and the sunniest since 1957. Thunderstorms in the evening of 11th produced 2.38 inches of rain, 1.84 inches of which fell in 29 minutes in the hour ended 17.00 G.M.T. and this can be classified as a "very rare" fall. Flooding occurred in the Pepper Lane-University-Christchurch Green areas. The total represents the heaviest fall recorded at the University stations on any one day since reliable records began about 1920. This rainfall ended a "dry spell" of 20 days.
- July During a heavy thunderstorm, between 02.30 and 03.10 G.M.T. on the 8th, 0.42 of an inch of rain fell in 12 minutes at 02.35.
- August This was the sunniest August since 1964, but the 20th was the coldest August day since 6th, 1962 (57°F).
- September The warmest September since 1964 and the sunniest since 1966.
- October As October last year, this proved an unusually dry month, and temperature was a little above the normal.
- November Exceptionally wet; the wettest November since 1951 when the total was 6.64 inches. Six inches has only been exceeded twice before this in this month - namely 1940, 6.24 inches and 1929, 6.58 inches.
- December The driest December since 1963. The first snow of the winter fell on Christmas Eve with a little snow lying on Christmas morning.

ATMOSPHERIC POLLUTION

1970

Measurements of smoke concentration and sulphur dioxide (SO₂) are summarised in the following table. They constitute the results of daily measurements of smoke and SO₂ pollution by air filter and volumetric method respectively from apparatus installed in the Geography Department, Reading University, at Whiteknights.

A star against a month indicates that the electricity supply was interrupted at some time during the period in which the apparatus was in operation.

Smoke Concentration Microgrammes per cu. m.				Sulphur Dioxide (SO ₂) Concentration Microgrammes per cu. m.			
Month	Mean	Highest	Lowest	Mean	Highest	Lowest	
January	40	140 4th	4 11th	115	264 4th	56 11th	
February	33	95 14th	7 21st	100	215 13th	42 7th, 8th	
March	27	79 9th	5 20th, 29th,30th	101	194 8th	38 30th	
April	17	58 13th	4 21st,22nd	68	119 13th	30 16th	
May	14	44 5th	3 20th	91	165 5th	42 31st	
June*	11	30 8th, 10th	1 28th	81	176 12th	43 24th	
July	6	16 16th	0 26th,27th	47	117 27th	12 18th, 21st,23rd	
August	13	42 27th	0 15th	70	198 26th	38 19th	
September	15	43 23rd	2 8th,9th	66	186 21st	31 13th	
October	37	120 17th	4 4th	92	259 16th	33 5th	
November*	27	134 26th	7 3rd	59	246 26th	20 13th, 20th	
December*	52	150 9th	16 2nd,24th	80	250 31st	26 19th	
Year	24	150 9th Dec.	0 26th,27th July 15th Aug.	81	264 4th Jan.	12 18th, 21st, 23rd July	

WEATHER RECORDS IN 1971

by A. E. Moon

The data refer to Reading University Meteorological Station. On 31st December 1970 the station was moved to a new site on the level ground adjoining Bridges Hall owing to building and development of the Plant Sciences grounds on which the station has been situated for the past two years. Records began on the new site on 1st January this year. As in the past two years, this being a new site, the averages for the London Road site are no longer applicable and are omitted from this summary. A "rain day" is a day on which rainfall equals or exceeds 0.2 mm. or more. (Rainfall measurement in milli-
metres was brought into force on 1st January this year.) For the designation of frost and ground frost days see Weather Records in 1961.

STATION - READING UNIVERSITY. HEIGHT ABOVE MEAN SEA LEVEL - 215 ft.

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR
MEAN DAILY TEMPERATURES OF	MAX.	45.0	46.5	47.7	53.2	63.3	62.5	73.7	68.8	68.0	61.9	49.9	48.0	57.5
	MIN.	35.1	34.1	35.4	39.1	44.5	48.7	54.9	54.8	48.3	45.0	36.4	39.6	43.1
	MEAN.	40.1	40.3	41.5	46.1	53.9	55.6	64.3	61.8	58.1	53.5	43.1	43.8	50.3
	RANGE	9.9	12.4	12.3	14.1	18.8	13.8	18.8	14.0	19.7	16.9	13.5	8.4	14.4
	GRASS MIN.	30.5	27.0	28.2	32.5	34.7	43.4	45.1	48.0	38.4	37.1	28.8	34.8	35.8
EXTREME TEMPERATURES OF	E. MAX.	54	53	55	69	72	72	84	77	76	73	61	57	84
	DATE	23	21	24,30	22	11,12	2,24	11	19	8	2	1,2	20,21	July 11
	E. MIN.	22	25	23	31	32	40	45	45	38	33	25	30	22
	DATE	4,5	16	7	27	3	13	18	17	18	7,15	20	1	Jan. 4,5
	E. GRASS MIN.	13	15	14	17	19	29	28	32	27	19	12	17	12
DATE	5	16	5,7,23	27	3	13	18	8	18	7	20	1	Nov. 20	
DAYS WITH FROST		9	8	10	2	0	0	0	0	0	0	9	3	41
" " GROUND FROST		15	20	22	15	12	1	1	0	7	10	20	10	133
SUNSHINE HOURS	SUM.	39.5	78.7	109.2	129.8	246.7	146.8	247.6	151.0	179.3	149.4	107.0	34.0	1619.0
	% POSS.	15	28	30	31	51	30	50	34	47	45	40	14	36
	DAILY MEAN.	1.27	2.81	3.52	4.33	7.96	4.89	7.99	4.87	5.98	4.82	3.57	1.10	4.43
PRECIPITATION mm.	AMOUNT	91.6	17.2	54.2	53.6	47.0	155.3	19.0	63.4	8.5	56.9	56.2	26.7	649.6
	RAIN DAYS	18	8	15	9	11	13	8	20	4	11	11	9	137
	MAX. RAIN IN 1 DAY	11.4	7.4	15.1	18.0	14.5	54.7	7.2	18.4	4.2	17.2	17.8	11.1	54.7
	DATE	26	14	17	23	24	10	30	20	26	16	5	19	June 10
LONGEST RUN OF CONSECUTIVE RAIN DAYS		12	6	7	5	8	4	4	7	4	3	4	2	-
LONGEST RUN OF CONSECUTIVE DRY DAYS		5	11	5	6	7	7	17	3	23	8	5	12	-
SNOW OR SLEET DAYS		5	3	7	1	0	0	0	0	0	0	1	1	18
DAYS SNOW LYING		1	0	1	0	0	0	0	0	0	0	0	0	2
VISIBILITY	FOG AT 0900 G.M.T.	9	3	0	0	0	0	0	0	0	3	3	4	22
	THUNDERSTORM ACTIVITY													
THUNDERSTORM ACTIVITY	DAYS OF THUNDER	1	0	0	1	4	0	2	5	0	0	1	0	14
	DAYS OF HAIL	1	0	0	0	0	0	0	1	0	1	0	0	3

MONTHLY WEATHER NOTES, 1971

- January Very cold for first five days then mild with rainfall above average.
- February The driest February since 1965; average temperature and sunshine above normal.
- March A rather cold month with sunshine below average.
- April This was the dullest April since 1966. Temperature reached 60°F for the first time this year on 15th.
- May The sunniest May since 1956.
- June This was the coldest and wettest June since reliable records became available at the University in 1921. June 1935 was the previous wettest with 4.32 inches (109.7mm.). It was also the dullest June since 1956.
- July In contrast to June this month was the driest since 1955 and a drought period of 17 days ended early on 21st.
- August Cool and with rather less sunshine than average.
- September A remarkably dry and sunny month; it was the sunniest September since 1964 and the driest since 1959. A drought period of 24 days ended on 24th.
- October This was the sunniest October since sunshine records began in Reading in 1939 and temperature was well above average.
- November The sunniest November since Reading sunshine records began in 1939 and the only November to reach or exceed 100 hours in that period. The first air frost occurred on 7th and first snow of the present winter on 23rd.
- December The warmest December since 1954 and the driest since 1963.

ATMOSPHERIC POLLUTION

1971

Measurements of smoke concentration and sulphur dioxide (SO₂) are summarised in the following table. They constitute the results of daily measurements of smoke and SO₂ pollution by air filter and volumetric method respectively from apparatus installed in the Geography Department, Reading University, at Whiteknights.

Smoke Concentration Microgrammes per cu. m.				Sulphur Dioxide (SO ₂) Concentration Microgrammes per cu. m.			
<u>Month</u>	<u>Mean</u>	<u>Highest</u>	<u>Lowest</u>	<u>Mean</u>	<u>Highest</u>	<u>Lowest</u>	
January	49	193 2nd	6 18th	73	375 13th	0	24th
February	37	83 22nd	2 13th, 14th	80	151 7th	6	14th
March	22	61 7th	2 18th	85	166 29th	44	15th
April	20	52 1st	1 24th	82	291 1st	21	9th
May	13	61 5th	0 29th	63	223 5th	6	7th 9th
June	6	23 22nd	0 26th	42	71 22nd	24	27th
July	9	26 8th	1 24th, 25th 31st	66	136 3rd	31	25th
August	8	35 25th	0 1st, 12th 14th	47	108 25th	27	31st
September	28	93 15th	0 26th	73	242 21st	25	26th
October	26	154 29th	1 17th, 18th	75	193 29th	32	18th
November	31	101 11th	4 27th	91	219 11th	45	2nd, 3rd 16th
December	31	166 5th	2 19th	79	219 6th	32	29th
Year	23	193 2nd Jan.	0 29th May 26th Jn. 1st, 12th 14th Aug. 26th Spt.	71	375 13th Jan.	0	24th Jan.