

Shropshire Invertebrates Group

Annual Report 2004

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Field Meetings 2004

15 February 2004: Severn-Vyrnwy confluence at Melverley (present: J. Mason, C. Derry, I. Thompson, G. Blunt)

Our first field trip of the year was to the confluence of the Rivers Severn and Vyrnwy, where Wales marches with England at the Powys-Shropshire border. This area is regularly inundated in winter, and only ten days earlier flood-water had reached the top and in places overflowed the earth bunds which flank both rivers; but by the time of our visit the floods had receded, leaving a few wet patches in riverside fields and a tide-line of debris to mark their highest point.

Our visit had twin aims of recording bird species in the area and sampling the flood-refuse for invertebrates. The fine, sunny weather prevailing from around mid-day proved kind to our purposes. Beginning at the road bridge over the Severn near Crew Green, we followed the footpath along the top of the bund to Melverley village. Few wetland bird species were in evidence here, save for a couple of Mute Swans on the Severn and a loose party of 16 Mallard, all paired up, circling overhead; a Cormorant passed and re-passed us on several occasions, and parties of overflying Black-headed Gulls totalled around 100. Birds of farmland and hedgerow were well in evidence and included flocks of 60 Fieldfares and 50 Starlings in the wet pasture, 40 Rooks and 10 Jackdaws among the hedgerow trees, and 7 Skylarks overhead. Up to 4 Buzzards and a couple of Ravens soared on the warm noon air, and a flock of 150 Lapwings flew up on several occasions from fields on the Welsh side of the confluence.

As we neared Melverley we encountered more bird species among the gardens and shrubberies near the church. Blue and Great Tits were in song, as were a Greenfinch and two Collared Doves. We investigated the picturesque churchyard with its view along the R. Vyrnwy; here we collected an old Wren's nest from a Yew, from which several hen fleas *Ceratophyllus gallinae* (Siphonaptera) were later extracted. Then we retraced our steps along the bund towards our cars. On this return walk we turned our attention more to the invertebrate fauna, searching under logs and tree bark and collecting bundles of flood refuse. A 22-spot Ladybird *Thea 22-punctata* and a pupa of either a Small or Green-veined White came to our attention, as did the spiders *Nuctenea umbratica* and *Salicus scenicus*. We also examined a flowering specimen of Mistletoe growing in a mature Hawthorn.

Over lunch at our cars we sifted through the flood refuse which proved highly productive of beetles, especially Carabidae and Staphylinidae, a sample of which was retained for further identification. The species encountered were a mixture of common and local, plus one, *Stomis pumicatus*, which is apparently uncommon. A full list (all from the Shropshire bank of the Vyrnwy) is as follows:

<i>Agonum assimile</i>	<i>Enicmus histrio</i>	<i>Tachyporus chrysomelinus</i>
<i>A. dorsale</i>	<i>Glischrochilus hortensis</i>	<i>T. hypnorum</i>
<i>Agriotes obscurus</i>	Longitarsus rubiginosus	<i>T. obtusus</i>
<i>Bembidion lunulatum</i>	<i>Olisthopus rotundatus</i>	<i>Trechus obtusus</i>
<i>B. tetricolum</i>	<i>Paederus littoralis</i>	<i>Xantholinus glabratus</i>
<i>Chrysolina polita</i>	<i>Phaedon cochleariae</i>	<i>X. linearis</i>
<i>Dromius linearis</i>	<i>Pterostichus cupreus</i>	
	<i>Stomis pumicatus</i>	

Other findings in the flood refuse were the molluscs *Discus rotundatus* and *Nesovitrea hammonis* and the bug *Anthocoris confusus* (Hemiptera: Cimicidae).

After lunch we drove to the Powys side of the Severn, parking at Haimwood Farm and walking much of the way towards Haim. New birds for the day were a Pheasant, 7 Stock Doves and 4 Long-tailed Tits; while a Peregrine which flew high overhead caused panic in the flocks of Lapwing and Starling along the whole valley. As we continued on our way we saw a Brown Hare in the fields, and a couple of Grey Squirrels played hide-and-seek with us around a tree. Finally as we neared Haim we found the last remaining area of floods, now little more than a few shallow pools in a ploughed field, where ten Yellowhammers were gathered along with the Lapwing flock which had given us distant views earlier in the day. At this point, with daylight fading, we turned back to our cars and left for home.

The full list of bird species recorded during the day is:

Cormorant	Great spotted woodpecker	Starling
Mute Swan	Skylark	Blue Tit
Mallard	Raven	Great Tit
Pheasant	Carriion Crow	Long-tailed Tit
Kestrel	Rook	Wren
Buzzard	Jackdaw	Meadow Pipit
Peregrine	Magpie	Yellowhammer
Lapwing	Blackbird	House Sparrow
Black-headed Gull	Fieldfare	Chaffinch
Woodpigeon	Robin	Greenfinch
Stock Dove	Dunnock	Bullfinch
Collared Dove		Goldfinch

21 March 2004: Wenlock Edge near Much Wenlock (present: J. Mason, C. Derry, G. Blunt)

On a dull and muggy day we met at the National Trust car park just outside Much Wenlock to explore the old limestone quarries and a part of Blakeway Hollow in this vicinity. Our target was to compile an inventory of woodlice and other invertebrates from the area.

Ash, Hawthorn and Ivy were the most frequent woody plants of the small disused quarries by the car park, reflecting the disturbed nature of their soils; beneath them we found a ground flora including some of our most familiar spring species, by now in flower: Daisy, Lesser Celandine, Dog's Mercury and Wood Anemone. Here and there in the hedgerows we came across Hazel catkins and the small white stars of Blackthorn blossom; while along the hedge-banks of Blakeway Hollow both Hairy Violet and, further up, Sweet Violet showed off their delicate blooms. At this early stage of the season many other plant species appeared as young leaves, and of these we recognised Cowslip, Lords-and-Ladies, Early-purple Orchid, Wild Strawberry and False Brome. A good number of birds were already holding territory and singing vigorously: Great Tit, Robin, Goldcrest and Blue Tit in the lower canopy, Greenfinch, Chaffinch and Mistle Thrush in the tops of the highest Ashes.

After exploring the car park area we took the footpath across open limestone pasture to The Bank, with the weather now turning to light showers. A nearby field bore traces of surface quarrying, the ground's pocks and hollows creating a good range of microclimates, which were enhanced by an abundance of Rabbit burrows and mounds created by Moles and Yellow Ants *Lasius flavus* scattered across the pasture. Extensive grazing by sheep had somewhat reduced floral diversity, though the previous summer's Carline and Woolly Thistles were still evident as withered stems and rosettes. Exposures of rock just beyond the reach of sheep supported small quantities of Wild Thyme and Salad Burnet, while their crevices held Wall-rue, Maidenhair Spleenwort and Hart's-tongue ferns. Following the path across this field brought us to the escarpment of Wenlock Edge with its belt of mature limestone woodland, where we encountered the richest flora so far, including Holly, Spurge-laurel and Bluebell. At this point we decided to retrace our steps to the car park and a belated lunch.

All this while we searched under stones and in rock crevices for invertebrates. In the cool, damp conditions these were not easily come by, the sheltered quarries near the car park providing the best rewards. Our search for woodlice produced four common species, though we were pleased to include the Pill Woodlouse *Armadillidium vulgare* among them, as it is typical of limestone habitats. We were also able to compare it with the Pill Millipede *Glomeris marginata*, which adopts a similar defence of curling up into a ball. As might be expected, snails were among the more diverse invertebrate groups we encountered, while insects were mostly represented by beetles, among them the Violet Ground Beetle *Carabus violaceus*. A small, white millipede found in one of the quarries proved to be *Ophiodesmus albonanus*, a distinctly local species and our best invertebrate find of the day.

As we lunched we added a number of bird species to our tally. Long-tailed Tits foraged persistently in Hawthorns nearby, and a pair of Pied Wagtails strutted about the short grass by our cars. Marsh Tit and Woodpigeon flew into the neighbouring trees; while overhead we saw Raven and Kestrel. As we searched the nearest quarry face for fossils (with no great success), a Wren flitted in and out of the Ivy cover before us, and an old Blackbird's nest came to light. And everywhere we encountered corvids – Jackdaws calling noisily, Magpies and Carrion Crows.

After lunch we walked up Blakeway Hollow for about half a mile, searching the vegetation in the hedge bottoms. An interesting fern proved to be Intermediate Polypody; the moss *Rhytidadelphus squarrosus* was encountered in sheltered embankments; while the lichen *Xanthoria parietina* and two fungi, Jew's Ear and King Alfred's Cakes, were located on the dead and dying wood of Elder and Ash. The tortoise-beetle *Cassida rubiginosa* was found by searching the taller vegetation, our only invertebrate of note along this ancient track-way. However, as the afternoon wore on we were pleased to see Blackbird and Green Woodpecker, and the presence of three Siskins in nearby trees showed that winter had still not passed completely away.

A full list of the invertebrates recorded during our visit is given below:

Insects

Beetles (Coleoptera)

Abax parallelepipedus
Carabus violaceus
Cassida rubiginosa

Coccinella septempunctata
Notiophilus biguttatus
Scaphidema metallicum

Flies (Diptera)

Phytomyza ilicis mines on Holly

Ants etc (Hymenoptera)

Lasius flavus ant hills in pasture

Other invertebrates

Woodlice (Crustacea)

Armadillidium vulgare
Oniscus asellus
Philoscia muscorum
Porcellio scaber

Millipedes (Diplopoda)

Glomeris marginata
Ophiodesmus albonanus
Polydesmus angustus
Tachypodoiulus niger

Harvestmen (Opiliones)

Nemastoma bimaculatum
Rilaena triangularis

Centipedes (Chilopoda)

Lithobius variegatus

Slugs and Snails (Mollusca)

Cepaea sp.
Clausilia bidentata
Cochlicopa lubrica
Discus rotundatus
Helix aspersa

Monacha cantiana

Oxychilus cellarius
O. draparnaudi

Vitrina pellucida

Spiders (Araneae)

Amaurobius sp.

**25 April 2004: Borle Brook at Highley (present: R. Kemp, N. Jones, D. Pryce, I. Thompson,
J. Mason, W. Rudge, G. Blunt)**

A fine, sunny spring day brought our group to the site of the old Kinlet drift mine by the Borle Brook just south of Highley. A ruined building here bears the inscription *Kinlet Mine 1896*; but it now stands alone and long-deserted among well-grown woodland, reached by way of a track fringed with mature Hazel, Hawthorn, Blackthorn and other shrubs. Nature has reclaimed this area thoroughly, and almost everywhere we found a flora typical of lowland woodlands on the somewhat heavy, damp soils of our region. Wych Elm, Pedunculate Oak and Field Maple formed the main tree cover; Spindle, Guelder-rose and Goat Willow occurred often in the shrub layer; shadier places bore Hairy Wood-rush, Hart's-tongue and Hard Shield-fern; and by hedge-bottoms and sunny glades we came across some of our most familiar woodland herbs, many in full flower: Bluebell, Primrose, Red Campion, Lesser Celandine, Ramsons, Greater Stitchwort, Dog's Mercury, Ground-ivy, Wood-sorrel, and Wild and Barren Strawberries. Evidence that the soils had been disturbed could be found from the amount of Bramble and Ivy present, and by the occasional Sycamore in the canopy, while a flowering Leopard's-bane had been naturalised here; but most of the plant species in this woodland seemed as though they were ancient denizens of this locality.

As we set out from our cars along the main track into the wood we encountered Buzzard (the first of three during the day) and Sparrowhawk, and from trees and bushes in new leaf came the songs of Blue Tit, Great Tit, three Chiffchaffs and a Blackcap. The fine weather brought out good numbers of Green-veined Whites, Orange Tips and Speckled Woods which flitted along the lane before us. Our beating tray was put to good use here and a few moth larvae came our way, notably Mottled Umber, Winter Moth, November Moth and Green-brindled Crescent, beaten mostly from Hawthorn and Hazel bushes. Soon after entering the woodland we netted a specimen of the notable hoverfly *Neoascia obliqua*, which was to be one of our better insect discoveries of the trip.

We found the old mine building on a small knoll in a small clearing, whose soils were much thinner and more shaly than before. Silver Birch now appeared in the woodland, while Cowslips dotted the edge of the glade. A Peacock butterfly basked here, and one or two male Brimstones flew by. We lunched at this spot, and spent some time searching the open spaces afterwards; in this way we came across the bee-fly *Bombilius major*, the bee *Andrena haemorrhoa* and, a surprise considering the habitat, the Slender Ground-hopper. But our most exciting finds here were two species of spring morel fungi: *Geomitra (Mitrophora) semilibera* and the uncommon *Verpa conica*, which grew in greater quantities than any of us had seen before.

From this knoll we descended again, towards a pool where Mallard took to the wing at our approach, and around which grew several mature Alders; then through another stretch of deciduous woodland whose field layer held flowering Wood Anemone, Wood Speedwell, Common Dog-violet, Sweet Violet and Yellow Archangel. We found the common shieldbug *Elasmostethus interstinctus* and the bumblebee *Bombus terrestris*, but invertebrates were few at this location, until at length we arrived at a tributary of the Borle Brook. Here, where the stream had formed a shallow valley with bare muddy banks supporting Opposite-leaved Golden-saxifrage and Wavy Bitter-cress, we paused for some while. A Common Toad was by the stream and a dead Bullhead in it; a Willow Warbler sang nearby, and both Wren and Green Woodpecker were heard; but it was the abundance of invertebrates in and around this stretch of water which chiefly held our attention. Several mayfly nymphs were taken from the stream, and we were able to identify *Centropilum luteolum*, two species of *Baetis*, one of which was probably *B. rhodani* and the other not specifically identifiable, and a *Heptagenia* species. The bare mud proved to be a good spot for ground beetles (Carabidae) and we identified the following species:

Agonum assimile
A. fuliginosum
Amara plebeja
Bembidion properans

Loricera pilicornis
Notiophilus biguttatus
Trechus secalis

Of these, *T. secalis* is a scarce insect of shaded, moist places, another excellent discovery of the day. The common rove beetle *Lesteva longoelytrata* (Staphylinidae) was also present among the beetle fauna, and a specimen of the local *Hylecoetus dermestoides* (Lymexylidae), an indicator of old woodland, flew onto one of our jackets. While we were searching among the streamside vegetation we flushed a Water Carpet, a geometrid moth generally under-recorded because of its early flight period.

We had already encountered several hoverfly species on our trip, notably *Rhingia campestris*, *Epistrophe eligans*, *Melanostoma scalare* and *Cheilosia variabilis*; but the prize of the day awaited us along this stream, where the presence of fallen logs in the water suggested to us the possibility of the Red Data Book RDB2 hoverfly *Chalcosyrphus eunotus*, a speciality of the Welsh Borders, North Wales and Midland counties. A large, darting fly settled briefly on one of the logs, and we believed it to be *C. eunotus* but were not sure. A search upstream produced another tantalising glimpse, and for some while we thought we had missed our prize. Then at last one settled long enough to be netted, and we were able to admire this handsome fly at close quarters. Two or three other specimens turned up a little later, and this proved to be a fine culmination of a most productive day. After a while we left the stream and returned to our cars, but encountered nothing further of note along the way.

30 May 2004: The Ercall and Limekiln Woods (present: C. Derry, R. Kemp, I. Thompson, J. Mason, W. Rudge, N. Jones, G. Blunt)

Our group met by the motorway bridge at the northern end of the Ercall woods, where we began our investigation of this area's wide range of habitats. Pedunculate Oak and Silver Birch formed the main woodland canopy species, with Rowan, Downy Birch, Wych Elm, Holly and Sweet Chestnut sparingly distributed, and a shrub layer composed of Bramble, Honeysuckle and abundant Bilberry. Flowering plant species were rather few on the more acid soils: Bluebells were numerous but their season largely over, and little was in bloom except Climbing Corydalis and Greater Stitchwort.

One of our targets for the visit was to check out an old record of Little Thorn, but we failed to find any trace of this, one of Shropshire's least known macro-moths. Nonetheless, several Lepidoptera did come our way on The Ercall, among them Speckled Wood, Brown Silver-line, Brimstone Moth and Little Emerald, together with Nettle Tap, *Micropterix calthella* and *Esperia sulphurella* among the micros. Pedunculate Oak leaves abounded in mines of *Eriocrania subpurpurella*; while mines of *Stigmella aurella* were on Bramble and *S. sorbi* on Rowan, though both these were rather scarce; and dipterous mines on Honeysuckle leaves proved to be those of the agromyzid fly *Aulagromyza hendeliana*. Our searches of the woodland trees also turned up galls of several invertebrate species: *Andricus curvator*, *Neuroterus quercus-baccarum* and *Biorhiza pallida* (all Hymenoptera) on Pedunculate Oak, and *Eriophyes sorbi* (Acari) on Rowan.

Near the car park we encountered a sunny clearing where bumblebees were numerous, including *Bombus lapidarius*, *B. pascuorum* and *B. lucorum*, along with the cuckoo-bee *Bombus (Psithyrus) sylvestris*. Beetles found in this area were the dung-beetle *Geotrupes stercorosus*, the cardinal beetle *Pyrochroa serraticornis* and the longhorn *Rhagium bifasciatum*. A variety of hoverflies were taken throughout The Ercall woodlands, the following species being identified:

<i>Cheilosia illustrata</i>	<i>Leucozona lucorum</i>	<i>Rhingia campestris</i>
<i>Epistrophe eligans</i>	<i>Merodon equestris</i>	<i>Volucella bombylans</i>
<i>Eristalis pertinax</i>	<i>Portevinia maculata</i>	<i>Xylota segnis</i>

The mild spring sunshine induced birds into song: Chaffinches announced their territories in several places, and Wren, Song Thrush and Treecreeper were very vocal. These woodlands are noted for their breeding Wood Warblers, but on this day only one was singing. A Great Spotted Woodpecker called briefly. Then we descended the eastern flank of The Ercall to a small stream on whose banks flourished Ramsons, Woodruff, Yellow Archangel, Herb-Robert and Wood Avens, where we came across a male Blackcap singing sweetly.

At this point we entered a lane leading towards the golf club. Not far along it we found a meadow rich in plants and insects, where we decided to have lunch. We hung a number of clearwing pheromone lures from trees around the edges of the meadow; but we were to be disappointed throughout the day with this new technique of attracting these elusive moths. There was still much to engage our interest however: the mixed sward included Cuckooflower, Common Sorrel and Meadow Buttercup in damper turf, Pignut, Yellow-rattle and Germander Speedwell in short dry grassland, and Hogweed in the meadow's lusher sward; Bracken was encroaching from the woodland edge; and a careful search rewarded us with a few spikes of Common Spotted-orchid and Common Twayblade. Insect life was abundant, with the following species recorded within an hour's tarry:

<u>Coleoptera</u>		
<i>Adalia bipunctata</i>	<i>Cassida vibex</i>	<i>Grammoptera ruficornis</i>
<i>Apoderus coryli</i>	<i>Ctenicera pectinicornis</i>	<i>Malachius bipustulatus</i>
<i>Calvia 14-punctata</i>	<i>Deporaus betulae</i>	<i>Oedemera nobilis</i>

<u>Lepidoptera</u>		
Burnet Companion	Silver-ground Carpet	Small Tortoiseshell (larvae)
Green-veined White	Silver Y	<i>Epiblema scutulana</i>
Large White	Small Copper	

<u>Galls</u>		
<i>Aculus laevis</i> (Acari) on Goat Willow	<i>Puccinia poarum</i> (Uredinales) on Colt's-foot	
<i>Eriophyes prunispinosae</i> (Acari) on Blackthorn	<i>P. urticata</i> (Uredinales) on Common Nettle	

<u>Others</u>	
<i>Cercopis vulnerata</i> (Hemiptera: Cercopidae)	<i>Volucella bombylans</i> (Diptera: Syrphidae)
<i>Empis tessellata</i> (Diptera: Empididae)	

Throughout our time in the meadow we could hear a Chiffchaff singing in the adjacent woodland, while a Great Spotted Woodpecker and Buzzard also called nearby.

After lunch we ascended the lane still further and entered Limekiln Wood along an old trackway. The flora resembled that of The Ercall, but several species were either more abundant here or appeared for the first time;

Ash, Alder and Hazel were now characteristic of the canopy and shrub layer, while Wood Speedwell, Sanicle, Wood Millet and Wood Melick were frequent in the ground layer. Chiffchaff and Treecreeper were again seen, and we disturbed a Rabbit which bolted into thick cover. Among the invertebrates present were the beetles *Rhagium mordax* and *Oedemera lurida*, a Peacock butterfly, and a few moth species: Cream Wave, *Adela reaumurella*, *Esperia sulphurella*, the mines of *Stigmella aurella* again scarce on Brambles, and a larval case of *Coleophora limosipennella* on a Foxglove leaf, this last species only known previously in Shropshire from Whixall Moss. The bug *Dryophilocoris flavoquadrimaculata* (Hemiptera: Miridae) was also recorded in Limekiln Wood.

After crossing the golf course we made our way into the disused quarries of Maddocks Hill and Ercall. Leguminous plants were much in evidence in the former: Broom clad the drier slopes, while Common Vetch and Red Clover occupied the quarry bed. In leaf were Colt's-foot and Yellow-wort, and Common Spotted-orchid appeared in damper soils. As we entered the quarry Jackdaws rose in noisy clans from cliff ledges, a Pheasant took flight in a thicket of Goat Willows, and a Raven croaked overhead. In the afternoon sunshine the shallow soils and bottom seepages abounded in insects, with Lepidoptera very much in evidence. We encountered Common Blue, Dingy Skipper, Small Heath, Orange Tip and Green Hairstreak for the first time that day, with an equally interesting range of moths including Cinnabar, Mother Shipton, Muslin Moth, plus two larvae of the Mullein, and the micros *Cydia compositella*, *Epiblema sticticana* and *Platyptilia gonodactyla*. Diptera were represented by the bee-fly *Bombylius major*, crane-fly *Tipula maxima* and a good range of hoverflies, including five species new for the day: *Cheirosia albifarsis*, *Eristalis tenax*, *Pipizella viduata*, *Platycheirus albimanus* and *P. rosarum*. The common robber-fly *Dioclea rufipes* was a not unexpected find, but the related *Leptarthrus brevirostris*, an associate of limestone grassland, was unusual as it is scarce in the Midlands. The mirid bug *Calocoris sexguttatus* occurred, as did the Large Red Damselfly in damper parts, and we again recorded the gall *Puccinia poarum* on Colt's-foot, with two other mite galls which were new for the day: *Aceria aceriscampestris* on Field Maple and *Eriophyes laevis* on Alder. Our best find in Maddocks Hill Quarry, however, was the tiny fly *Thecophora atra* (Diptera: Conopidae), a parasite of small solitary bees, which we swept from the vicinity of Brambles: this appears to be the first published Shropshire record for this species. A possible host, the mason bee *Osmia caerulescens*, was also present on this site.

The smaller Ercall Quarry proved to be more densely vegetated with scrub, but open places in the quarry bottom held a similar if less rich fauna to that of Maddocks Hill, with Dingy Skipper, Cinnabar and *Platyptilia gonodactyla* again present, plus Comma, Burnet Companion and two Hemiptera, namely *Cercopis vulnerata* and *Dolycoris baccata*. The Narcissus Bulb-fly *Merodon equestris* (Diptera: Syrphidae) was also present in this quarry.

This was a long day's fieldwork, and though we encountered nothing further of note on the walk back to our cars, we were well satisfied with our results from an area which we felt had been too neglected by entomologists past.

26 June 2004: Coalbrookdale (present: J. Mason, C. Derry, I. Thompson, G. Blunt, D. Pryce)

This moth-trapping meeting was held at the Greenwood Trust's headquarters on Station Road, Coalbrookdale, the site of a disused railway station. This property has been developed by the Trust as a centre for courses in traditional wood-craft and rural activities, and the grounds have partly been planted with flower-beds, shrubberies and pond-side vegetation to benefit wildlife. Much of the area, however, consists of semi-natural woodland dominated by Ash and supporting a typical limestone woodland flora. A particular feature is the abundance of Traveller's-joy in the shrub layer, and a primary aim of our visit was to investigate this foodplant's moth fauna, a group of species poorly studied in Shropshire. The Trust kindly provided access to an electrical power-point which enabled us to run two mercury-vapour lamp traps, which we supported with a Heath trap running a battery-operated ultra-violet lamp. A further Heath trap was left 1.5km away in Loamhole Dingle, by the side of a clear, shallow stream, principally to sample caddis-flies (Trichoptera).

All traps were in place by 10:00pm, and as twilight gathered we took the opportunity to net specimens by torchlight around the Greenwood Trust site. A fine specimen of Pretty Chalk Carpet was taken in this way while feeding on Bramble blossom, and provided the first evidence of the Traveller's-joy fauna. A Pug moth netted at the same time provoked much interest, and later examination showed it to be Haworth's Pug, another species

whose larvae utilise this foodplant. Further specimens of both these moths were later taken in the light traps, but these remained our only Traveller's-joy species for the night. However, several specimens of the pyralid *Perinephela lancealis* were another exciting find, as our specimens appear to be the first Shropshire records of this moth outside the Wyre Forest; its principal larval foodplant, Hemp-agrimony, was not uncommon on the site.

As darkness settled our traps began to attract good numbers of specimens, and we were pleased to see that caddis-flies and a handful of mayflies were among the insects drawn to them. A short rain-shower helped maintain a humid atmosphere. The Ash-feeding tortricid *Pseudargyrotoza conwagana* was the most numerous moth in the traps with at least ten specimens, and the Flame, with eight, the commonest of the macros. Plume moths appeared in variety, with two Bindweed-feeding species - *Pterophorus pentadactyla* and *Emmelina monodactyla* - plus *Capperia britanniodactylus*, whose larvae are monophagous on Wood Sage. Pug moths were also well represented in the catch, for besides Howarth's Pug there were Freyer's, Green, Double-striped and Tawny Speckled Pugs. A full list of species for the Greenwood Trust site is:

Macrolepidoptera

Angle Shades	Fan-foot	Peppered Moth
Barred Straw	Flame	Plain Golden Y
Bordered White	Flame Shoulder	Pretty Chalk Carpet
Bright-line Brown-eye	Freyer's Pug	Riband Wave
Brimstone Moth	Green Arches	Short-cloaked Moth
Buff Arches	Green Carpet	Small Angle Shades
Clouded Border	Green Pug	Small Clouded Brindle
Clouded Silver	Green Silver-lines	Small Fan-foot
Common Emerald	Grey Arches	Small Fan-footed Wave
Common Marbled Carpet	Haworth's Pug	Snout
Common Wave	Heart and Dart	Spectacle
Common White Wave	Ingrailed Clay	Swallow-tailed Moth
Dark Arches	Large Yellow Underwing	Tawny Speckled Pug
Dot Moth	Light Emerald	Willow Beauty
Double Square-spot	Mottled Beauty	Yellow Shell
Double-striped Pug	Pale Prominent	
Engrailed	Peach Blossom	

Microlepidoptera

<i>Agapeta hamana</i>	<i>Chrysoteuchia culmella</i>	<i>Perinephela lancealis</i>
<i>A. zoegana</i>	<i>Emmelina monodactyla</i>	<i>Phycita roborella</i>
<i>Aleimma loeflingiana</i>	<i>Epiblema trimaculana</i>	<i>Pleuroptya ruralis</i>
<i>Aphelia paleana</i>	<i>E. uddmanniana</i>	<i>Pseudargyrotoza conwagana</i>
<i>Aphomia sociella</i>	<i>Epinotia subocellana</i>	<i>Pterophorus pentadactyla</i>
<i>Archips podana</i>	<i>Eurrhypara hortulata</i>	<i>Udea olivalis</i>
<i>Argyresthia brockeella</i>	<i>Euzophera pinguis</i>	
<i>Capperia britanniodactylus</i>	<i>Lozotaenia forsterana</i>	

In addition, the trap at Loamhole Dingle produced a Blood-vein, Mottled Beauty and Silver-ground Carpet.

Among the other invertebrates attracted to our traps at the Trust site were a male and three females of the Ditch Dun mayfly *Habrophlebia fusca* (Ephemeroptera: Leptophlebiidae), a Dark Bush-cricket and four Orange Ladybirds *Halyzia 16-guttata*. The most exciting find of the night, however, proved to be one of the caddis flies, subsequently identified as *Setodes punctata* (Trichoptera: Leptoceridae), a Red Data Book RDB2 species apparently confined in Britain to riffles along the Rivers Wye and Severn. This rounded off a most satisfactory night; further species stopped appearing at the traps around 1:00am, and we finished shortly afterwards.

11 July 2004: Stokesay Wood and River Onny (present: G. Blunt, W. Rudge, J. Mason, N. Jones, I. Thompson)

Meeting at Stokesay Castle car park, our group followed the lane which leads to the railway, across it and beyond into Stokesay Wood. For much of its length this lane is bordered by an old mixed hedgerow in which we counted eleven shrubby species: Field Maple, Hawthorn, Blackthorn, Spindle and Hazel in some quantity, with lesser amounts of Dogwood, Dog-rose, Elder, Bramble, Wych Elm and English Elm; while overhead mature Pedunculate Oak and Ash trees formed a partially enclosed canopy. Contrasting with the hedgerow's ancient aspect, however, the field layer plants beside it were typical of a more disturbed and enriched habitat, with Meadow Vetchling, White Clover, Agrimony, Good-King-Henry and abundant Black Horehound. A Common Figwort bore the blotch-mines of *Amauromyza verbasci* (Diptera: Agromyzidae), and mines of the related *Phytomyza lappae* were present on Lesser Burdock; flower-heads of this latter plant also attracted good numbers of the picture-winged fly *Terellia (Cerajocera) tussilaginis* (Diptera: Tephritidae).

In dull conditions a few Ringlets were flying along the lane, while single Gatekeeper and Small White and two or three Meadow Browns were also in evidence. The hoverflies *Episyrphus balteatus*, *Syritta pipiens*, *Baccha elongata*, *Platycheirus albimanus*, *P. scutatus* and *Sphaerophoria scripta* and the bumblebees *Bombus lapidarius*, *B. lucorum* and *B. pascuorum* took nectar from hedgerow plants. The soldier-flies *Beris geniculata* and *B. vallata* were among other Diptera we took in this area. We beat a variety of shrubs for larvae, getting good rewards from mature Spindles in particular, with a single caterpillar of the Scorched Carpet and two of *Ypsolopha mucronella* (Lepidoptera: Yponomeutidae), a new species for Shropshire at the very north-western limit of its British range; these were subsequently reared out for confirmation of identity.

Not far along this lane we passed a field full of Marsh and Musk Thistles, where Rabbits and a couple of Goldfinches were active. Across the railway the lane continued for several score metres through open fields, with a low hedge on one side only. Insects were fewer here, though caterpillars of the Cinnabar were readily encountered on Common Ragwort. Then as the track approached Stokesay Wood tall hedges again closed in upon it, and Aspen and Silver Birch appeared for the first time. Invertebrates located here were the microlepidoptera *Ancylis mitterbacheriana* and *Olethreutes lacunana*, the Two-spot Ladybird *Adalia bipunctata* in its melanistic form, the bumblebee *Bombus pratorum* and mines of the agromyzid fly *Aulagromyza tremulae* on Aspen.

An enormous Goat Willow marked the start of the woodland proper, whereupon the track changed character and became a sunken lane bordered by banks which supported Ash, Pedunculate Oak, Wych Elm and Hazel in an overarching canopy. A single Wild Cherry was beaten and yielded a Forest Bug *Pentatoma rufipes* (Hemiptera: Pentatomidae); we sampled the cherries and found them sweet, while the fruits of a nearby Gooseberry provided us with a tart dessert. In this vicinity we located the fungus *Amanita fulva* and several common moths including the pyralid *Scoparia pyralella*, the Large Yellow Underwing, Snout and Light Emerald, a late female *Adela reaumurella*, and larvae of *Pandemis corylana* on Ash. *Hypatima rhombodella* was netted for the second time that day, a specimen having been found earlier near the Spindles. Beating produced no great numbers of invertebrates, though the impressive lacewing *Nineta vittata* (Neuroptera: Chrysopidae) and the beetle *Malthinus flaveolus* (Coleoptera: Cantharidae) were among them. One *Trypetia artemisiae* here was our second species of Tephritidae for the day.

At length we arrived at an avenue of Small-leaved Limes. One of the trip's targets was to investigate the invertebrate fauna of this tree, and straight away we encountered the galls of the mite *Aceria lateannulatus* and the gall-midge *Didymomyia tiliacea* (Diptera: Cecidomyiidae). Searching of Small-leaved Lime trunks produced a number of bark-lice *Trichadenotecnum fasciatum* (Psocoptera) and an Engrailed moth; while beating the foliage yielded larvae of Scalloped Hazel, Square Spot and Least Black Arches: a good haul, for the last two seem to be the species' first larval records in Shropshire.

Higher up the lane we began to encounter naturalised trees and shrubs, with hybrid Lime, Sycamore and Japanese Knotweed close by a small clearing. Within this glade we found Selfheal, Common Centaury and Square-stalked St John's-wort, and these attracted all four bumblebee species seen earlier plus the cuckoo-bee *Bombus bohemicus*; one Common Ground-hopper; the soldier-beetle *Rhagonycha fulva* (Coleoptera: Cantharidae); and the hoverfly *Episyrphus balteatus*. Cinnabar caterpillars and the pyralid *Chrysoteuchia culmella* were the only moths present here. Bird-life was noticeable in this area and included singing Chiffchaff and Song Thrush, plus foraging Jay, Nuthatch, Great Spotted Woodpecker and Long-tailed Tits in the wood nearby. A Raven called from a Pine copse and appeared to have a nest there.

After lunching in the glade we retraced our steps, left Stokesay Wood behind us, then deviated across fields to the south-east along a footpath which passed by an old lime-kiln. We traversed the railway beneath a small bridge, used by Stock Doves and Swallows as a nest-site, and headed towards the banks of the River Onny. At a distance we could pick out the river's bends from a line of Indian Balsam on its banks. When we examined the waterside

and emergent vegetation in detail, we found abundant Reed Canary-grass in the shallower reaches of the river, along with Hemlock Water-dropwort, Branched Bur-reed, Great Willowherb, Marsh Woundwort, Common and Water Figworts. Patches of River Water-crowfoot trailed along the current at river bends. A Heron was flushed from the water and a Dipper flew upstream, while several Sand Martins and Swifts hawked for insects overhead. We searched the banks and riffles for about a hundred metres upstream, readily finding the bumblebee *Bombus hortorum*, the Banded and Beautiful Demoiselles and two mayfly species: *Ephemera danica* (Ephemeridae) and the Blue-winged Olive *Serratella ignita* (Ephemerellidae). Caddis flies included a female *Hydropsyche* species. The disturbed soils of adjacent farmland held Great Mullein, Common Figwort, Creeping Yellow-cress and Upright Hedge-parsley, among which the Seven-spot Ladybird *Coccinella 7-punctata* and the micro moth *Agriphila straminella* were abundant; both Hawthorn and Crab Apple played host to Mistletoe plants; and in sheep pasture nearby were single Kestrel and Pheasant and numerous molehills. Flower-heads in these fields produced several solitary bees *LasioGLOSSUM calceatum* (Hymenoptera: Halictidae), the bugs *Deraeocoris ruber* and *Calocoris sexguttatus* (Hemiptera: Miridae), and the hoverflies *Melanostoma scalare*, *Platycheirus clypeatus* and *Syrphus vitripennis* (Diptera: Syrphidae).

After a long and productive day we made our way back to Stokesay Castle, pausing to observe a solitary Coot and two Pied Wagtails at the Castle pool and Swallows and House Martins around the Castle's ancient walls.

The day's findings are completed by the following list of additional plant galls and leaf mines recorded, mostly along the lane between Stokesay Castle and the railway crossing:

Galls

Aceria aceriscampestris (Acari) on Field Maple
A. eriobius (Acari) on Field Maple

Eriophyes similis (Acari) on Spindle
Pontania proxima (Hymenoptera) on Crack-willow

Mines (all microlepidoptera)

Parornix anglicella on Hawthorn
Phyllonorycter coryli on Hazel
P. oxyacantheae on Hawthorn

Stigmella floslactella on Hazel
S. hybnerella on Hawthorn

8 August 2004: Prees Heath and Brown Moss (present: I. Thompson, J. Mason, N. Jones, G. Blunt, K. Claxton, R. Claxton, E. Cope)

A breezy day, starting with hot sun and turning later to showers, marked our visit to the Whitchurch area to explore the contrasting habitats of Prees Heath and Brown Moss. We began on the Heath, a large triangle of sandy soil between two major roads (A41 and A49), where we found a marginal belt of trees and shrubs enclosing a central disturbed area full of Common Ragwort, Rosebay Willowherb, Smooth Hawk's-beard and Perforate St John's-wort. This abundance of nectar sources was augmented more locally by Common Centaury, Scarlet Pimpernel, Musk Thistle and Dove's-foot Crane's-bill; together they attracted several butterflies, including Gatekeepers a-plenty, plus Meadow Brown, Small Heath and a single Small Copper, and the bumblebees *Bombus pascuorum* and *B. lapidarius*, the latter species represented by two very large and newly-emerged queens. Among the Diptera many *Tachina fera* (Tachinidae) were on Ragwort flowers, accompanied by a huge swarm of hoverflies (Syrphidae) consisting of numerous *Episyrphus balteatus*, *Eristalis arbustorum*, *E. tenax*, *Helophilus pendulus*, *Eupodes* spp. and *Syrphus* spp. along with single specimens of *Eristalinus aeneus*, *Platycheirus peltatus* and the uncommon *Helophilus hybridus*. Several Orthoptera turned up in our sweep-net, and we identified both Common Green and Field Grasshoppers, while a Ten-spot Ladybird *Adalia 10-punctata* was also taken in this way. Moths were surprisingly numerous, particularly the pyralids *Agriphila inquinatella*, *A. straminella* and *Udea lutealis*, and the expected Cinnabar caterpillars were readily found on Ragwort, though not in the plague numbers that their abundant foodplant might have promised. A Silver Y was flying about Brambles; while among our best moth finds here was a single White-line Dart, an infrequently recorded insect of heathy places in Shropshire.

Progressing along the western fringe of light woodland we found Pedunculate Oak and Silver Birch to be the predominant trees, with Hawthorn and Gorse also abundant, and one or two thickets of Raspberry and Bramble. Yarrow and Great Mullein grew among the taller sward, and the latter's leaves bore mines of the agromyzid fly *Amauromyza verbasci*. Galls on Pedunculate Oak proved to be those of the Hymenoptera *Andricus quercuscalicis* and *Neuroterus numismalis*; the mine of *Phyllonorycter heegeriella* (Lepidoptera: Gracillariidae) was located on the same foodplant; and a specimen of the bug *Iassus lanio* (Hemiptera: Cicadellidae) was beaten from it. Around Silver Birch trees adults of the micro moth *Argyresthia goedartella* were on the wing. Two or three patches of open, sandy ground held solitary bee colonies, and we could clearly see that some of their holes were tenanted, but

we were unable to procure a specimen for identification. We did, however, secure the solitary wasp *Oxybelus uniglumis*, plus the plant bug *Deraeocoris ruber* (Hemiptera: Miridae) and three species of Diptera: *Conops flavipes* and *C. quadrifasciatus* (Conopidae) and *Chrysops relictus* (Tabanidae). A few Rabbits were present among the Gorse thickets, and one let us approach unusually closely.

More open parts of the Heath supported abundant patches of flowering Heather and Bell Heather, which attracted Green-veined White and the bumblebee *Bombus lucorum*. A male Common Blue flew past us, and eventually we found small patches of its larval foodplant Common Bird's-foot-trefoil, along with Wood Sage and a few plants of Harebell also in flower, plus the terrestrial lichen *Peltigera canina* on damper soil. A Scarce Footman moth was an interesting find in a Gorse bush, and Meadow Grasshoppers were present in taller grasses nearby. Birds were not particularly evident anywhere at Prees Heath, though a Buzzard and three Lesser Black-backed Gulls passed overhead, and a Hobby took a hirundine over a nearby wood; and while searching for invertebrates we came across the distinctive wing-covert feather of a Jay.

After returning to our cars we drove the short distance to Brown Moss, where we lunched, then we explored parts of the main pool and nearby wetlands. This site seems to be progressively drying out, and water levels were well down in all the wet areas. Two Little Grebes and 15 Black-headed Gulls joined the flock of hybrid ducks on the main pool; and as we walked along the exposed shore-line, among the lush tangle of Gypsywort, Skullcap, Greater Bird's-foot-trefoil, Marsh Cinquefoil and Marsh Cudweed, we found an abundance of New Zealand Pigmyweed, attractive with its small white flowers, but a most unwelcome invader nonetheless.

The main tree canopy of the Moss consisted of Pedunculate Oak, Silver Birch, Goat and Grey Willows, and beating their lower branches produced larvae of Peppered Moth and Puss Moth, plus a Parent Bug *Elasmucha grisea* (Hemiptera: Acanthosomatidae). Galls of *Andricus quercuscalicis* and *A. fecundator* (Hymenoptera: Cynipidae) were present on the Oaks, and a swiftly-flying butterfly overhead may have been a Purple Hairstreak, though its identity was unconfirmed. Not so elusive, however, were Speckled Wood, Meadow Brown and Small White about the woodland edges.

After crossing a short, Rabbit-grazed turf where grew a few plants of Heather and Tormentil, and a Small Copper and Gatekeeper were on the wing, we spent time in lush vegetation beside a couple of ponds. Sweep-netting yielded Meadow Grasshopper and an abundance of the leafhopper *Cicadella viridis* (Hemiptera: Cicadellidae); but a rain-shower soon put an end to sweeping, and we progressed after that by searching shrubs and herbage. In this way we located a Green-veined White and a well-grown caterpillar of Elephant Hawkmoth, the latter engaging the attention of the photographers in our party. The bumblebees *Bombus pascuorum*, *B. lapidarius* and *B. lucorum* continued to forage in the damp weather, and seven species of Odonata were on the wing – Brown, Migrant and Southern Hawkers, Ruddy Darter, Common Blue Damselfly, and Blue-tailed and Emerald Damselflies. Bog Pimpernel was found growing in the wet turf on one part of the Moss. A bee specimen taken for later examination turned out to be a male cuckoo bumblebee *Bombus (Psythirus) campestris*, one of our better finds of the day. We recorded several of the same Diptera and Hemiptera species as we had found on Prees Heath, adding *Rhingia campestris*, *Volucella pellucens*, *Leucozona glaucia*, *Eupodes corollae*, *Platycheirus granditarsa* and *Chrysotoxum bicinctum* (all Syrphidae) as new for the day.

With the afternoon well advanced by now, our party split up and returned home their separate ways.

5 September 2004: Offa's Dyke at Llanfair Hill (present: I. Thompson, J. Mason, W. Rudge, G. Blunt, K. Claxton, C. Derry)

This field meeting was a repeat of the one held on 21 September 2003 to study the migration of birds and insects over the upland pastures of this elevated part of the county (*cf.* Shropshire Invertebrates Group Annual Report 2003 pp 7-8). A somewhat earlier date was chosen this year to see what effect the timing may have on the numbers, species composition and orientation of migrants at this site. Again the weather was favourable to our purpose: winds light, a sky intermittently cloudy and sunny, and a dry atmosphere throughout our visit.

As in 2003 our group met near the tumulus south of Springhill Farm and progressed along the Dyke to the south-east. As usual for this area a large flock of Rooks was feeding in the sheep-pastures along the way, but on this occasion Jackdaws were in single figures only, while five Ravens and four Buzzards made up the rest of the resident bird fauna. In places the banks of Offa's Dyke were riddled with Rabbit burrows, and these appear to have been used as nest-sites by at least two pairs of Wheatears, for we encountered males, females and well-fledged young in a couple of loose groups, totalling eight birds in all. A Common Frog was also discovered in the short turf, rather surprising us as we could find no obvious breeding site for it.

We halted at the same shelter-belt of conifers as in the previous year, and sat down to keep a tally of everything which flew past us. At this moment a diverse selection of seats, stools and chairs was produced to make our stay comfortable, and before long the smell of frying bacon rose into the air. As we concentrated on recording the migration we found a small but regular trickle of both insects and birds following much the same pattern as in 2003: insects arriving low over the fields and mostly from the north, being diverted in a SSE direction on arriving at the Dyke; and birds flying singly or in small parties at higher altitudes in a variety of directions, though with a general southerly trend to their movements. The totals for the full 5 hours of observation are as follows, with the 2003 totals (made over 3.5 hours' observation) in parentheses for comparison:

Red Admiral:	8, all singles, heading largely S or SE (62)
Painted Lady:	5 singles heading S to SSE (5)
Small Tortoiseshell:	7 singles heading mostly S (2)
Peacock:	1 heading SW (-)
Comma:	I heading SSE (-)
Vanessid unidentified:	6 including one party of two, all heading S to SE (-)
Large White:	5 singles heading variously S, SSE, SW and NNW (2)
Small White:	3 singles heading S (-)
Green-veined White:	2 singles heading W and N (-)
Pierid unidentified:	9 including one party of two, heading S to W (-)
Meadow Brown:	1 female heading S (-)
Small Heath:	1 heading SSE (-)
Wall Brown:	1 male heading SE plus 2 apparently holding local territory (-)
Silver Y:	1 feeding from head of Musk Thistle in sheep-pasture (1)
Common Darter:	1 heading SSE (-)
Southern Hawker:	1 heading E (-)
Meadow Pipit:	17 (mean 1.42 birds per observation) mostly heading S, plus 12 grounded in sheep-pasture (91)
Goldfinch:	2 singles heading S and N plus 1 immature bird grounded (68)
Linnet:	39 (mean 2.6) mostly heading S to SE, plus 10 grounded (14)
Woodpigeon:	4 in three parties heading N, NE and S (12)
Skylark:	1 heard overhead, direction not known (5)
Swallow:	7 in five parties heading S to W (-)
Starling:	40 in four parties mostly heading E, plus 30 grounded (-)
Hobby:	1 female heading SE (-)
Chaffinch:	2 (one party) heading S plus 7 in shelterbelt (-)
Greenfinch:	2 (one party) heading NW (-)

While the great majority of the above showed clear migrational intent, some may have been local residents moving only a short distance. In particular, the Green-veined Whites, Wall Browns, Goldfinches and Woodpigeons showed somewhat different behaviour and directional orientation from the other species. In addition to those listed, we saw many other small insects floating in a general SSE direction along the shelterbelt; these included an abundance of swarming ants (Formicidae), dung-flies *Scathophaga* sp. (Scathophagidae), social wasps (Vespidae) and rove beetles (Staphylinidae), though none of these was specifically identified. We did find the fly *Mesembrina meridiana* (Diptera: Muscidae), the pyralid moth *Agriphila tristella* and quite a number of Meadow Grasshoppers at our watch-point, and a surprise discovery was a Sallow moth disturbed from nearby

vegetation. A single Wren and two Blue Tits spent some time in the conifer belt oblivious to our presence. As we retraced our steps to the cars we added the bumblebee *Bombus lucorum* to our day's list.

Compared with 2003 our observations included many more species both of insects and birds, though where we encountered the same species as before, numbers tended to be smaller in 2004. Only Pied and Grey Wagtails were missing this year compared with last. Finally, one butterfly listed above as an unidentified Pierid may have been a Clouded Yellow, but its identity could not be confirmed.

17 October 2004: Colemere (present: I. Thompson, J. Mason, W. Rudge, G. Blunt, K. Claxton, N. Jones)

Mild weather graced this last field meeting of the year, as we explored meadow, plantation and canal in the circuit about this ancient post-glacial lake. We started from the car park at the eastern end of Colemere, pausing to observe Shropshire's most northerly Mistletoe plant growing in a tall Hawthorn. Young Alders had been planted around this edge of the mere, but the habitat here was essentially open grassland, where a few late flowers of Common Ragwort, Red Clover, Common Knapweed and Devil's-bit Scabious showed among the dying vegetation. We identified plenty of Sharp-flowered Rush, Gypsywort and still more Devil's-bit Scabious in the withered sward; seedheads of Marsh-orchids were abundant; and a fine specimen of Parasol Mushroom was found. A handful of Common Green Grasshoppers were still active in the meadow, while the bumblebee *Bombus pascuorum* and hoverfly *Helophilus pendulus* sought out the remaining nectar sources. Both Meadow Pipit and Pied Wagtail were flushed from the shore, a Buzzard and Kestrel flew overhead, and a late Sand Martin drew our attention.

On the far side of the meadow we entered Yell Wood, a secondary woodland consisting mostly of Ash and Sycamore, with Alders by a stream, and lesser amounts of Pedunculate Oak, Rowan and Holly and a self-seeded Yew sapling. Further into the wood we met with several tall Silver Birches and Scots Pines, one of the latter broken-topped by a recent gale. The shrub layer was dominated by Bramble and Honeysuckle, the field layer by Broad Buckler-fern. At the far end of the plantation we passed beneath mature Beeches underplanted with Rhododendrons, one or two of which bore solitary late blooms. A reasonable variety of other plant species was recorded in this woodland, including:

Black Bryony
Bracken
Common Nettle
Common Valerian
Cow Parsley
Dog-rose
Elder
Greater Plantain
Hedge Woundwort
Herb-Robert
Rosebay Willowherb
Rough Chervil
Sweet Chestnut
Wood Avens
Wych Elm

A number of woodland birds were in evidence, and we located two mixed foraging flocks dominated by Blue, Great and Long-tailed Tits; a careful search among them revealed Coal Tit, Nuthatch, Wren and Chaffinch also. A Robin warbled its thin autumn song, and we flushed two Carrion Crows and three Herons from the lakeside trees. When we stopped for lunch at a large fallen Beech trunk we found a Common Frog and Bank Vole beneath a log; while in nearby trees three Grey Squirrels showed little concern for our presence.

A main focus of our visit was to search for fungi, plant galls and leaf-mines, and we encountered our greatest variety in this woodland: a full list for the day follows at the end of this account. However, we were also surprised at the other invertebrates we encountered, especially a large hatch of caddis-flies (Trichoptera) among Branched Bur-reed in the lakeside shallows, which attracted six Migrant Hawker and one Brown Hawker dragonflies. We took four specimens of caddis, which comprised three species: *Limnephilus flavicornis*, *L. marmoratus* and *Potamophylax cingulatus*. A decayed tree stump was investigated, producing a nest of angry wasps which made us retreat rapidly; the Parent Bug *Elasmucha grisea* was seen crawling up a Beech trunk; the hoverflies *Eristalis tenax*, *Platycheirus manicatus* and *Xylota segnis* were on the wing; and a culvert beside a canal bridge yielded a hibernating Peacock butterfly, a variety of slugs, and the skeleton of a Frog or Toad.

With sunlight in our favour as we neared the western end of the mere, we were able to inspect in detail the wildfowl flocks on the open water. An armada of Canada Geese at least five hundred strong dominated all in sight and sound; but careful scanning yielded two Greylags and a single Barnacle Goose among them; while some thirty Mallard were joined by three Coot, a pair of Wigeon, and single Tufted Duck and Pochard. A flock of Common, Black-headed and Lesser Black-backed Gulls built up steadily during the afternoon; and four Cormorants briefly joined the half-dozen Goosanders and similar number of Great Crested Grebes in the middle of the lake. Single Moorhen and Mute Swan completed the list of waterfowl present during our visit. An over-flying flock of fifty Lapwings, which would once have occasioned little remark, was a far from common sight nowadays.

At various points around the mere we were able to approach the water's edge, and we found a number of plant species among the marginal and emergent vegetation. A small stand of Common Reed may have been an introduction; but Reed Sweet-grass, Trifid Bur-marigold, Water-pepper, Wild Angelica and Water-dropwort were probably native to the site. On the southern side of Colemere we passed through an open woodland planted with Beech, Larch and Hazel, with occasional Red Oak. The ground flora beneath was sparse, but included Foxglove, Dog's Mercury and Wood-sorrel. A few specimens of Stinkhorn fungus were breaking through the leaf litter here, adding to the handful of species we had recorded earlier in the day. The only invertebrate of note in this woodland was the micro-moth *Taleporia tubulosa* (Psychidae), whose characteristic larval case was found on a tree trunk.

The sun was setting as we completed our circuit of Colemere, drawing to an end our year's field excursions; all that was left for us was the identification of the fungi, galls and leaf-mines we had collected during the day, a complete list of which is as follows:

Acari

Eriophyes laevis gall on Alder

E. sorbi gall on Rowan

Diptera

Amauromyza labiatarum mine on Hedge Woundwort

Phytomyza ilicis mine on Holly

Phytomyza lappae mine on Lesser Burdock

Taxomyia taxi gall on Yew

Wachtiella rosarum gall on Dog-rose

Hymenoptera

Andricus curvator gall on Pedunculate Oak

Diplolepis rosae gall on Dog-rose

Neuroterus anthracinus gall on Pedunculate Oak

N. quercus-baccarum gall on Pedunculate Oak

Lepidoptera

Parornix devoniella mine on Hazel

Phyllonorycter coryli mine on Hazel

P. maestingella mine on Beech

P. messaniella mine on Beech
P. muelleriella mine on Pedunculate Oak
P. rajella mine on Alder
Phyllonorycter salicicolella mine on Grey Willow
P. sorbi mine on Rowan
P. stettinensis mine on Alder
P. tristrigella mine on Wych Elm
Stigmella aurella mine on Bramble
S. marginicolella mine on Wych Elm

Fungi

Amanita citrina
Boletus badius
Clitocybe flaccida
Hypholoma fasciculare
Laccaria amethysta
Lepiota procer
Oudemansiella mucida
Phallus impudicus
Rhytisma acerinum
Taphrina betulina gall on Silver Birch

Additions and Corrections to 2003 Annual Report

Page 4, first paragraph, and page 10, photograph bottom right: this sawfly larva has been identified by John Grearson as *Periclista albida* (Hymenoptera: Tenthredinidae)

Page 13, second paragraph: substitute “*Bombylius major*” for “*Bombylius discolor*”

Page 13, last paragraph: substitute “*Trichiosoma*” for “*Trichosoma*”

Page 14, last paragraph: substitute “*Chloromyia*” for “*Chloromya*”

Page 24, first column (Lepidoptera): substitute “Grayling” for “Greyling”

Page 25, penultimate paragraph: substitute “knew” for “new”

Members' individual activities 2004

Ian Thompson

Mammals

For the second year in a row I have not seen Mink while fishing on the Tanat, although my visits this year were rather infrequent. For the first time in a few years I have found no Polecat road traffic accidents in the Vincent Wildlife Trust's autumn survey period, nor any for the 2004-06 Mammal Society/VWT ongoing year-round survey. On a day trip to the Forest of Dean on 21 February I found a dead Fallow Deer with its throat torn out – presumably by either a Fox or a Badger, and after the deer's death.

Birds

Titmouse nests in two nestboxes in my garden at Meole Brace both failed this year, each presumably because of predation of one of the parents. Some first sightings of summer visitors were: 19 April - House Martin at Meole Brace; 23 April - Swallow at Llangedwyn (Powys), also Sand Martin there; a new Sand Martin colony, still very small, was found in an eroded river bank; 30 April - Swift in the Square in Shrewsbury.

It has been a good year for seeing raptors. Buzzards seem very common, as last year, but there appear to have been above-average numbers of Kestrels, Sparrowhawks and Peregrines in evidence. Very good close views of two Red Kites were obtained on a trip through mid-Wales on 9 September. The Hobby on the SIG field trip to

Llanfair Hill was the first I have seen. Some other bird sightings have included Red Grouse on the Stiperstones (30 March); a female Red-breasted Merganser in flight near Llangedwyn on 23 April; also Pied Wagtail there, a bird uncommon along the river corridor, where Grey Wagtail is more usual; up to five female Goosander at Venus Pool on 27 October and 3 November, also Shovelers, Redshank, Common Snipe and a Wigeon there on the latter date; a Jack Snipe at Wildmoor Pool on 2 November was the first I have seen for some years; and in Meole Brace on 23 November two Fieldfares stripping Rowan berries allowed a very close approach. Ravens, now widely recorded over much of Shropshire, have been seen regularly on outings.

Invertebrates

My Riverfly Survey work has been on a more casual and opportunistic basis this year, and I have generally taken specimens when fishing or on other occasions when on various field trips. One specific sampling trip to the Habberley Brook at Earl's Hill on 18 May was to look for evidence of caddis-flies, and it produced three species of Ephemeroptera and eight of Trichoptera; another trip is planned for 2005 to examine a stretch with a different substrate. One ephemeropteran specimen retained from last year was identified as a Dusky Yellowstreak *Heptagenia lateralis*, only the second record for Shropshire. This species may not be common, but is not as infrequent as this would suggest.

Bumblebees (*Bombus* spp.) again appeared to have had a good year. An early Large Red-tailed (*Bombus lapidarius*) queen was found in Meole Brace on 5 February. Common White-tailed (*B. lucorum*) and Buff-tailed (*B. terrestris*) queens were also in Meole Brace on 8 April. Interestingly, several species of cuckoo bumblebees were encountered this year; two males of the Woodland Cuckoo Bee (*B. sylvestris*) at Ercall Wood on the SIG field trip, one of which was black, a form not mentioned in the Naturalists' Handbook (Prŷs-Jones & Corbet, 1987); Gypsy (*Bombus bohemicus*) and Vestal (*B. vestalis*) Cuckoo Bee males were in the garden at home on 22 June and 11 July respectively; a Gypsy male again on the SIG trip to Stokesay Wood; and a Field Cuckoo Bee (*B. campestris*) male on the SIG trip to Brown Moss. All the foregoing were identified by examination of the genital capsule. On 22 June, besides the Gypsy Cuckoo Bee mentioned above, all the six common bumblebee species were present together on a Lavender hedge in my garden. Two specimens of the dark form of Common Carder Bee (*Bombus pascuorum*) were found this year on 14 July in the Rea Brook valley, Shrewsbury, and on 13 August at Alveley Country Park; two specimens of this species were also seen as late as 17 October at Colemere.

A few more sightings of Orange Ladybirds *Halyzia 16-guttata* were made this year: on 16 March, at Whithall Woods near the site of the Yellow Star-of-Bethlehem, and on 26 June four were found in our MV light trap at the Greenwood Trust. Interestingly, all the recent records of which I am aware have come from the Severn Valley except for one in 2003 from Haughmond Hill (c.1.5 miles from the River Severn). Two 14-Spot Ladybirds *Propylea 14-punctata* found on 22 July at Hunger Hill near Condover and on 2 August at Meole Brace exhibited different markings, one as in the Naturalists' Handbook volume (Majerus & Kearns, 1989) and the other as shown in Chinery (1986).

I found an Oak Bush-cricket in my laurel hedge on 6 August. I also revisited the site in Ashes Hollow where the colony of Grayling were found last year: because of the weather the vegetation was thicker in 2004, and only one butterfly was found on a new area nearby. Following up a report of "Scarce Chasers" at Berrington Pool, I found Black-tailed Skimmers – the first I have seen there. A friend also told me of seeing the latter species at Venus Pool in the "Norfolk Drain". I found a Fox Moth caterpillar on the Stiperstones on 30 March; three Drinker caterpillars at a wet meadow site at Habberley; and a Miller caterpillar on the pavement in Meole Brace below its Silver Birch food plant. In May there were two stretches of hedge along the road from Bayston Hill to Condover which were infested with the larvae of the Hawthorn Ermine moth. The shrubs were being eaten completely except for the woodiest parts.

Plants

Several days were spent during the year on botanical surveys, principally of the Rea Brook Valley meadows. I also helped with three training days for volunteers for the Shropshire County Council verge surveys. On 13 June I revisited the meadow by Ercall Wood (seen on the SIG field trip) and carried out a botanical survey, as the Shropshire Botanical Society did not know of and had no records for the site.

The Yellow Star-of-Bethlehem site is potentially under threat from work to create a cycle path along the valley between Hampton Loade and Highley. I took Sue Swales, the SCC ecologist, to see the site with a view to ensuring that damage was not done during construction. A lot of material from scrub clearance by the railway people had been dumped over the fence onto the area. Only one plant in bud was noted at the main area, but a new

clump was found a bit nearer the river. I visited the area again on 13 August to photograph the Violet Helleborines reported by Bob Kemp; there were around 20-25 flower spikes over a good area. On this visit I found a patch of Small Teasel, and noted with some dismay the extensive stands of Indian Balsam and patch of Japanese Knotweed on the flood meadows.

Nigel Jones

During 2004 I managed to escape into Shropshire's countryside frequently and recorded more insects than I have done for a long time. My report lists the most notable records made.

Shrewsbury (Belle Vue)

Many sightings were made in my own garden. The first solitary bees were on 9 April – two male *Anthophora plumipes* pursuing a female around Lungwort flowers, and a female *Andrena fulva*. The first *Osmia rufa* was seen on 13 April. For the second year running *Megachile leachella* occurred, on 13 June; this normally coastal species is most unusual in Shrewsbury and I shall try to find its breeding site if it occurs again in 2005. Also on 13 June I recorded *Anthophora furcata* with its slightly red tail for the first time in my garden; it was present for several weeks, and I have posted photographs of this bee on my website (www.insectpix.net). On 1 July a single *Anthidium manicatum* male was circulating a territory around *Stachys* plants; following a record-breaking year when I had counted up to sixteen individuals of this species at a time, 2004 was very poor, for I never saw more than two *A. manicatum* together.

Among hoverflies, the first *Epistrophe eligans* of the season appeared on 16 April, while on 21 June two very attractive and less usual species - *Chrysotoxum bicinctum* and *Xanthogramma pedissequum* - were present, along with the wetland hoverfly *Platycheirus rosarum*, well out of its usual habitat. An uncommon bug (Heteroptera), the red-coloured *Rhopalus subrufus*, was photographed on 13 June. In addition a colleague reported a Hummingbird Hawkmoth in Belle Vue on the early date of 13 April.

Shrewsbury area (other sites)

At Kemp's Field in the centre of Shrewsbury the river has carved out exposed sandy banks that harbour good colonies of solitary bees and wasps. Among a variety of *Andrena* and *Sphecodes* bees on 25 May were several *Chelostoma florisomne*, an uncommon bee which nests above ground. They were collecting tiny stone grains with which to seal their nest cells, but I was unable to locate their nest sites. In the meadow nearby was a Wasp Beetle *Clytus arietis* (Coleoptera: Cerambycidae). Between 27 May and 5 June I made four visits to the Rad Brook Valley, a small patch of streamside woodland near the city centre, coming across the notable Red-belted Hoverfly *Brachypalpoides latus*: there were at least three males and a female present, and I never saw them more than ten metres from a particular spot in the woodland. Other hoverflies were *Xylota sylvarum*, *Pipiza noctiluca*, *Criorhina berberina* feeding from Raspberry flowers, the uncommon *Ferdinandea cuprea* on a tree trunk, and *Epistrophe grossulariae* on Ground-elder flowers. Further Diptera included the very uncommon awl-fly *Xylophagus ater* (Xylophagidae), seen on two occasions including a pair *in cop.*, and the robber-fly *Dioclea baumhaueri* (Asilidae). Several Club-tailed Dragonflies were about the woodland edge.

On 15 June I visited Attingham Park, where hundreds of Banded Demoiselles and several Large Red Damselflies were flying along the river. I found three species of longhorn beetle (Cerambycidae) around the park and its outbuildings: *Phymatodes testacea*, *Leptura maculata* and the uncommon *L. quadriasciata*. The soldier-fly *Sargus flavipes* (Diptera: Stratiomyidae) was there also. Two visits to The Hollies below Haughmond Hill on 4 and 6 July produced another soldier-fly, the diminutive black *Zabrechia tenella*, plus the longhorn *Judolia cerambyciformis*, both local species. This woodland contains many old and dead trees, and as I explored the site I found several small, metallic insects very active on Oak leaves: on capture these turned out to be jewel beetles *Agrilus laticornis* (Coleoptera: Buprestidae), a notable species in the UK. A Hornet's nest was below ground in a tree stump, and I watched six or seven workers flying about it. Interesting Diptera at The Hollies were the hoverflies *Chalcosyrphus nemorum*, *Ferdinandea cuprea* and *Xylota sylvarum* plus the robber-flies *Choerades marginatus*, *Dioclea baumhaueri* and *Neoitamus cyanurus*. Also on 6 July I investigated a field between woodland and the Shrewsbury Canal bed at Uffington, where many Ringlets and a single Banded Demoiselle were

on the wing, and both *Physocephala rufipes* (Diptera: Conopidae) and *Megachile willughbiella* (Hymenoptera: Megachilidae) were present.

Wellington area

On 31 March a specimen of the impressive hoverfly *Criorhina ranunculi* was at Limekiln Wood; while another hoverfly, the uncommon *Chalcosyrphus nemorum*, was in Ercall Wood on 14 June. On 25 June I returned to Maddocks Hill Quarry, where we had had such rich pickings on our field meeting. I again recorded a good range of Diptera: the hoverflies *Eristalis arbustorum*, *E. intricarius*, *E. pertinax*, *Eupodes luniger*, *Volucella bombylans* and *V. pellucens*; the snipe-fly *Chrysopilus cristatus* (Rhagionidae); the robber-fly *Leptogaster cylindrica*; and a species of Conopidae, *Sicus ferrugineus*. Butterflies included Ringlet, Common Blue and Large Skipper; and my sweep-net yielded up the Six-belted Clearwing moth, which appears to be a first Shropshire record. In woodland below the Wrekin I found the longhorn beetle *Rhagium mordax* on 18 May.

Harnage-Cound area

I paid three very productive visits to Stevenshill Wood between Harnage and Cound on 17 May, 18 and 21 June. The first turned out to be something of a hoverfly red-letter day. Hundreds of *Portevinia maculata* were flying among their larval foodplant Ramsons; five *Criorhina asilica* were investigating rotting piles of wood and holes at the base of Ash trees; a *C. berberina* flew into a rotten tree stump; and at least three *Chalcosyrphus eunotus* were beside a small stream. Several bees *Chelostoma florisomne*, a Wasp Beetle and a queen Hornet were seen around the wooden posts of a gamekeeper's shelter. In a wooded clearing the Slender Ground-hopper was present in good numbers. On my June visits to this locality I encountered a Speckled Bush-cricket on Brambles, a record which is well north of its previously known Shropshire distribution; three further longhorn beetles were added to the site list - *Rhagium mordax*, *Judolia cerambyciformis* and *Stenocorus meridianus* – and the local cuckoo bee *Bombus rupestris* and sphecid wasp *Rhopalum coarctatum* were present. Diptera were particularly in evidence, with the hoverflies *Volucella pellucens* and *V. bombylans* in large numbers on 18 June. Other good hoverflies in June included *Chalcosyrphus nemorum*, *Criorhina berberina*, *Parhelophilus frutetorum*, *Sericomyia silentis*, *Xylota sylvarum*, and several *X. florum* around streamside Alders. The robber-fly *Choerades marginatus* was seen several times; and other flies of note included the Conopidae *Sicus ferrugineus* and *Physocephala rufipes* and the horse-fly *Chrysops caecutiens* (Tabanidae), which I captured before it could bite me!

Long Mynd and Stiperstones areas

Between Smethcott and Bletchcott near the northern edge of the Long Mynd some small and damp woodlands looked promising for invertebrates and proved to be so when I visited them on 11 June. There was an abundance of horse-flies *Haematopota crassicornis* resting on fence posts and rails around the field edge. I counted 30, all males, before losing count. Grassland around the wood harboured numbers of the robber-fly *Dioclea baumhaueri* and a single specimen of the large and impressive hoverfly *Sericomyia silentis*. Within the wood I recorded three other good hoverflies, *Ferdinandea cuprea*, *Neoascia oblique* and *Xylota florum*. However, the day's outstanding find was a distinctive black, rather flattened sawfly; the specimen was later identified by the sawfly expert John Gearson as the very rare *Pamphilus fumipennis* (Hymenoptera: Pamphiliidae), only the third post-1970 record for this species in the UK. At Medlicott on 7 August I found two *Tachina grossa* (Diptera: Tachinidae) among swarms of commoner Syrphidae and Tachinidae on flower-heads; and on the same day the robber-fly *Machimus atricapilla* was seen with hoverfly prey in the Golden Valley near Ratlinghope. Further west, the click beetle *Ctenicera cuprea* (Coleoptera: Elateridae) was in the recently-felled Gatton Plantation, Stiperstones, on 6 June; and on 14 August, at Eastridge Wood near Habberley, I found the hoverflies *Criorhina berberina*, *Ferdinandea cuprea*, *Leucozona glaucia* and *Sericomyia silentis*, together with another exciting sawfly, the very local black-and-white *Zaraea fasciata* (Hymenoptera: Cimbicidae), which I photographed as it fed on a Wild Angelica flower; I have never seen this distinctive and very noticeable sawfly before in Shropshire.

Other Shropshire Localities

A few other sightings complete my account for 2004: at Sellatyn on 5 May, the longhorn beetle *Rhagium bifasciatum*; this species again at Mellington Wood near Churchstoke on 16 May, along with the hoverfly *Criorhina berberina*; also on this date were good numbers of solitary bees on the Kerry Ridgeway track near Pantglas, including the distinctive *Andrena cineraria*, while an unusual abundance of *R. bifasciatum* was found here also on fence posts; and at nearby Anchor the click beetle *Ctenicera cuprea* was seen. Finally at Farley near Much Wenlock, on a very cool 12 July, I managed to find the picture-winged flies *Tephritis bardanae* and *Xyphosia miliaria* (Diptera: Tephritidae).

John Mason

The best news this year is that I have had confirmation of a new species added to the Shropshire list of fleas (Siphonaptera): this is the Noctule Flea *Ischnopsyllus elongatus* which I got from a bat box used as a Noctule roost in Apley Castle Park earlier this year. To continue the Apley Castle Park saga, I have not yet found any bat fleas in the sacks full of debris I removed from the original, now damaged, tree roost. In May 2003 the Shropshire Bat Group inspected the bat boxes in the woodlands there and found one *full* of Noctules. Unfortunately I didn't see them because I had a cold at the time and missed that visit. However, in May 2004 I did join the Group for their bat box inspections and asked to examine the box where the Noctules had been. I found it contained an accumulation of Noctule droppings at the bottom, some of which were quite fresh, suggesting that the bats had used it again this year. I scraped out as many of the droppings as I could and got a small sample. Under the microscope I could see several active flea larvae so I kept them in the hope that some would mature and hatch. It is not easy maintaining the right conditions in bat droppings for the livestock they contain. I succeeded in decimating the larvae, first by desiccating half of them to death and then, in my desperate attempts to re-hydrate them, I asphyxiated the rest with the subsequent release of ammonia. So, after my determined attempts to kill them all off, I was astonished when one perfect adult specimen emerged.

The county list is now 36 species. There are only a few more species possible: a few are specifically associated with certain hosts (Carriion Crow, Leisler's Bat and House Mouse); a few more are theoretically possible but rare, and haven't yet revealed their presence. Forty species probably represents a practical limit for Shropshire but it will be difficult to reach that total.

And now for the rest of my natural history news:

Shropshire

Birds

A male Sparrowhawk was in my garden at Bayston Hill in January, and Goldfinches were there on 4 April; House Martins were swarming around the main house at Attingham Park on 30 April; and on the following day a Cuckoo was heard from Lyth Hill, and a Blackcap was singing in Spring Coppice. On 11 May I found a Meadow Pipit's nest with young on the edge of a ditch at Fenn's and Whixall Mosses; Swifts were screaming over Bayston Hill on 15 May; and two young Tawny Owls were near the Hoffman Kiln at Llanymynech on 15 June. Shortly after this, on 24 June, I watched a Herring Gull swoop at a pair of Red-legged Partridges in an arable field at Atcham, raising a cloud of feathers from one of them – but both escaped; while on 13 August more than a dozen Ravens were flying together over the summit of Titterstone Clee.

Mammals

The first bats of the year at Bayston Hill appeared on 30 March; at Whixall Moss on 11 May I found signs of Water Voles (e.g. cut leaves, holes in the bank, latrines etc.); and on the B5061 at Overley Hill there was a dead Badger road traffic accident on 21 May. During 2004 I visited many Pipistrelle roosts at Cleobury Mortimer, Shawbury, Colemere Green, Broseley, Badger Moor (Clun), Shifnal, Wrockwardine Wood and Bromfield Church; and on a Shropshire Bat Group visit to Attingham Park on 15 May, when Pipistrelles and Noctules were detected in the grounds, an Otter was seen near the weir on the River Tern.

Invertebrates

Lots of Dotted Border moths appeared on our office windows in Attingham Park one day after a late afternoon power cut meant that all the lights were left on overnight; later in the year, on 18 May, these lights drew Poplar Hawkmoth and cockchafers *Melolontha melolontha* (Coleoptera: Scarabaeidae); while in the space of two days in the middle of this month two queen Hornets *Vespa crabro* turned up at the office. My garden attracted several butterflies in early spring: Brimstone on 30 March; Brimstone again, with Peacock and Small Tortoiseshell, on 13 April; a male Orange Tip and pair of Green-veined Whites joined the same three species on 19 April; while on 24 April Holly Blues appeared. Later in the year, on 9 October, a Red Admiral was on Ivy flowers at Bayston Hill. My other invertebrate sightings in 2004 included Green Hairstreak, Four-spotted Chaser and Large Red Damselfly at Whixall Moss on 17 May; large webs of Hawthorn Ermine moth larvae on a hedgerow near Condover (26 May); nests of Small Tortoiseshell larvae at Earl's Hill (13 June); and lots of insects on flowers in Gog Batch on 13 August, which included Gatekeeper, Meadow Brown, Small Copper and a huge horsefly

Tabanus autumnalis (Diptera: Tabanidae). Masses of insects were also enjoying Ivy blossom near the River Tern in autumn sunshine on 23 September, among them hoverflies, wasps and Hornets.

Botany

Aquatic ranunculi on the Long Mynd in May included Round-leaved Crowfoot in flushes at Plush Hill and elsewhere on the 12th and Pond Water-crowfoot in ponds at Round Hill a week later; also on the Long Mynd on 25 May Mountain Pansy was in flower. On 19 May, while on a bryological visit to look for the mosses *Grimmia incurva* and *Racomitrium affine* (= *sudeticum*) on Titterstone Clee I found Moonwort on spoil mounds in the quarry there. Patches of a pink clover which I spotted in passing along the Shrewsbury by-pass on 18 July proved to be Strawberry Clover. At Oswestry Old Hill fort on 20 June were five spikes of Greater Broomrape, already completely finished, so it must start flowering in May; while in my own garden the introduced Ivy Broomrape had another bumper year: 13 spikes had emerged by 13 June, and later the count reached 38 after I had crawled inside a Lilac bush where many were hiding; by 24 July the total reached 72, and finally 73 by 19 September.

Astronomy

I missed the total eclipse of the moon on 28 October because of thick cloud and rain; but fortunately the key event of the year, the transit of Venus on 8 June, was visible from Shropshire. The day dawned promisingly with a bright sun, and the transit was easily visible as it got under way, although Venus itself appeared tiny with the unaided eye when the sun was viewed with eclipse spectacles. However, I enjoyed some good views of the transit by projecting the image with a 300mm telephoto lens plus eyepiece into a cardboard box. Good viewing conditions continued through early office hours when I was able to demonstrate the transit to colleagues before hazy cloud degraded the image.

Elsewhere in the United Kingdom

I visited Mottey Meadows in Staffordshire on 2 May and saw Fritillary in flower there for the first time (I have often visited the site but not at the right time); a Cuckoo was heard and Curlews seen on the same day; also in Staffordshire, at Chartley Moss, three specimens of *Hagenella clathrata* (Trichoptera: Phryganaeidae) appeared briefly during a ten-minute spell of sunshine on 19 June. At Flamborough Head (North Yorkshire) on 6 June I saw a Wall Brown on the cliff-top path and Fulmars and House Martins nesting on the sea cliffs. I reared Rosy Underwings in captivity, and they emerged on 26 June.

Between 27 and 30 July I paid a visit to Dorset, where I saw lots of fossils – ammonites, brachiopods and belemnites – at the foot of cliffs at Charmouth, and a fossil forest east of Lulworth Cove; Wheatears, Yellowhammers and Marbled Whites were at Maiden Castle; a Lulworth Skipper on the Dorset Coast Path; and at Stair Hole were a Hummingbird Hawkmoth, Strawberry Clover and Golden-samphire. Knapweed Broomrape was on a roadside near Litton Cheney on 29 July, and on the following day I saw Little Egrets near Seaton in the valley of the River Axe (Devon).

Godfrey Blunt

Several interesting microlepidoptera species were taken this year through the efforts of myself and other SIG members. Among them are established aliens whose arrival in the county from their southern strongholds has been expected for some time; and the first of these to be recorded this year shows how quickly such species can establish themselves when arrived. On 26 March I stopped by a shrubbery in Telford town centre and found a Firethorn bush covered in blister-mines of *Phyllonorycter leucographella* – a first Shropshire record; and once learned, the mine was swiftly found on my neighbour's Firethorn in Alveley (27 March), in Wolverhampton city centre (West Midlands) on 29 March, and by Ian Thompson at Meole Brace in early April. Both Ian and I bred out his Meole Brace mines, which yielded two imagines of the moth, an eclosed larva, and nine braconid parasites.

In May I saw *Epiphyes postvittana* in good numbers at Alveley, and found it again during a casual visit to Erdington (West Midlands): new to me last year, it is clearly now here in strength. Another recent addition to the Shropshire micro-moth list also reappeared in 2004: this was *Phyllonorycter platanoidella*, whose leaf-mines I found in September on a Norway Maple beside the historic bridge at Ironbridge, and which turned up as an imago in a light-trap sample from Eric Steer at Shrewsbury on the night of 24-25 July. Eric's samples also included

Mompha subbistrigella (23 May) and *Pammene aurantiana* (16-17 August), both county firsts - and he too had *E. postvittana* in June. The final addition to the county's micro-moth list in 2004 is *Ypsolopha mucronella*, whose discovery at our field meeting to Stokesay on 11 July is described earlier in this Annual Report.

Outside our SIG field meetings I did little fieldwork myself this year, and can summarise my efforts readily as follows:

Alveley

A sunny Good Friday (9 April) brought a clear movement of insects through my garden. I counted three Small Whites, two Small Tortoiseshells, a Comma and a male Brimstone butterfly, together with the bumblebees *Bombus lucorum* (2), *B. terrestris* and *B. lapidarius*. A second Brimstone passed through on 15 May. I had some brief excitement in July when I found that my plants of Twiggy Mullein, obtained originally from a wildflower seed merchant, were full of leaf-mines, but they proved to be only the common *Amauromyza verbasci* (Diptera: Agromyzidae) which seems to have a wide choice of host plants. A Double-striped Pug on 9 December was my latest-ever specimen of this moth. This year I recorded two birds which were my first records for home – a Skylark in full song over my house on 5 June, and a Grey Wagtail which explored the margins of my artificial ponds on 9 October.

Coalbrookdale

I followed the SIG visit to the Greenwood Trust's Coalbrookdale site in June with another visit on 9 October, when during an open day of the Trust I took the opportunity to search for galls and leaf-mines. I had some success, the full list of species recorded being:

Acari

Phyllocoptes goniothorax gall on Hawthorn

Diptera

Agromyza potentillae mine on Wood Avens
Liriomyza eupatorii mine on Hemp-agrimony

Phytomyza vitalbae mine on Traveller's-joy

Hymenoptera

Cynips quercusfolii gall on Oak
Neuroterus numismalis gall on Oak

Neuroterus quercus-baccarum gall on Oak

Lepidoptera

Parornix anglicella mine on Hawthorn
Phyllonorycter coryli mine on Hazel
P. nicellii mine on Hazel
Stigmella aurella mine on Bramble
S. floslactella mine on Hazel

Other Localities

An urgent telephone call summoned me to Kinver Edge (Staffordshire) on 30 May, where with my brother and his wife I spent an hour or so hearing and watching the first Nightjar to be recorded on the site since 1986. The bird spent a week or so singing in a recently-cleared area of regenerating heath, but was not seen after it fell silent. On the same night we observed three Glow-worms *Lampyris noctiluca* (Coleoptera: Lampyridae) glimmering on the heath. Finally, as I was driving past Dudmaston sawmill (Shropshire) on 7 September, a Hornet *Vespa crabro* flew into my car through an open window. I kept watch on it in my rear-view mirror until I could find somewhere to park and liberate it. I gather from several sources that 2004 was a good year for Hornets - at Kinver Edge my brother had to abandon an outhouse for a while until a nest of these insects had finished.

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Appendix

Scientific names of species mentioned in the text

Flora

Agrimony <i>Agrimonia eupatoria</i>	Common Centaury <i>Centaureum erythraea</i>
Alder <i>Alnus glutinosa</i>	Common Dog-violet <i>Viola riviniana</i>
Ash <i>Fraxinus excelsior</i>	Common Figwort <i>Scrophularia nodosa</i>
Aspen <i>Populus tremula</i>	Common Knapweed <i>Centaurea nigra</i>
Barren Strawberry <i>Potentilla sterilis</i>	Common Nettle <i>Urtica dioica</i>
Beech <i>Fagus sylvatica</i>	Common Ragwort <i>Senecio jacobaea</i>
Bell Heather <i>Erica cinerea</i>	Common Reed <i>Phragmites australis</i>
Bilberry <i>Vaccinium myrtillus</i>	Common Sorrel <i>Rumex acetosa</i>
Bindweed <i>Convolvulus</i> spp.	Common Spotted-orchid <i>Dactylorhiza fuchsii</i>
Black Bryony <i>Tamus communis</i>	Common Twayblade <i>Listera ovata</i>
Black Horehound <i>Ballota nigra</i>	Common Valerian <i>Valeriana officinalis</i>
Blackthorn <i>Prunus spinosa</i>	Common Vetch <i>Vicia sativa</i>
Bluebell <i>Hyacinthoides non-scripta</i>	Cow Parsley <i>Anthriscus sylvestris</i>
Bog Pimpernel <i>Anagallis tenella</i>	Cowslip <i>Primula veris</i>
Bracken <i>Pteridium aquilinum</i>	Crab Apple <i>Malus sylvestris</i>
Bramble <i>Rubus fruticosus</i> agg.	Crack-willow <i>Salix fragilis</i>
Branched Bur-reed <i>Sparganium erectum</i>	Creeping Yellow-cress <i>Rorippa sylvestris</i>
Broad Buckler-fern <i>Dryopteris dilatata</i>	Cuckooflower <i>Cardamine pratensis</i>
Broom <i>Cytisus scoparius</i>	Daisy <i>Bellis perennis</i>
Carline Thistle <i>Carlina vulgaris</i>	Devil's-bit Scabious <i>Succisa pratensis</i>
Climbing Corydalis <i>Ceratocapnos claviculata</i>	Dog-rose <i>Rosa canina</i>
Colt's-foot <i>Tussilago farfara</i>	Dog's Mercury <i>Mercurialis perennis</i>
Common Bird's-foot-trefoil <i>Lotus corniculatus</i>	Dogwood <i>Cornus sanguinea</i>

Dove's-foot Crane's-bill <i>Geranium molle</i>	Maidenhair Spleenwort <i>Asplenium trichomanes</i>
Downy Birch <i>Betula pubescens</i>	Marsh Cinquefoil <i>Potentilla palustris</i>
Early-purple Orchid <i>Orchis mascula</i>	Marsh Cudweed <i>Gnaphalium uliginosum</i>
Elder <i>Sambucus nigra</i>	Marsh-orchid <i>Dactylorhiza</i> sp.
English Elm <i>Ulmus procera</i>	Marsh Thistle <i>Cirsium palustre</i>
Field Maple <i>Acer campestre</i>	Marsh Woundwort <i>Stachys palustris</i>
Firethorn <i>Pyracantha coccinea</i>	Meadow Buttercup <i>Ranunculus acris</i>
Foxglove <i>Digitalis purpurea</i>	Meadow Vetchling <i>Lathyrus pratensis</i>
Fritillary <i>Fritillaria meleagris</i>	Mistletoe <i>Viscum album</i>
Germander Speedwell <i>Veronica chamaedrys</i>	Moonwort <i>Botrychium lunaria</i>
Goat Willow <i>Salix caprea</i>	Mountain Pansy <i>Viola lutea</i>
Golden-samphire <i>Inula crithmoides</i>	Musk Thistle <i>Carduus nutans</i>
Good-King-Henry <i>Chenopodium bonus-henricus</i>	New Zealand Pigmyweed <i>Crassula helmsii</i>
Gooseberry <i>Ribes uva-crispa</i>	Norway Maple <i>Acer platanoides</i>
Gorse <i>Ulex europaeus</i>	Oak <i>Quercus</i> sp.
Greater Bird's-foot-trefoil <i>Lotus pedunculatus</i>	Opposite-leaved Golden-saxifrage <i>Chrysosplenium oppositifolium</i>
Greater Broomrape <i>Orobanche rapum-genistae</i>	Pedunculate Oak <i>Quercus robur</i>
Greater Plantain <i>Plantago majus</i>	Perforate St John's-wort <i>Hypericum perforatum</i>
Greater Stitchwort <i>Stellaria holostea</i>	Pignut <i>Conopodium majus</i>
Great Mullein <i>Verbascum thapsus</i>	Pine <i>Pinus</i> sp.
Great Willowherb <i>Epilobium hirsutum</i>	Pond Water-crowfoot <i>Ranunculus peltatus</i>
Grey Willow <i>Salix cinerea</i>	Primrose <i>Primula vulgaris</i>
Ground-elder <i>Aegopodium podagraria</i>	Ramsons <i>Allium ursinum</i>
Ground-ivy <i>Glechoma hederacea</i>	Raspberry <i>Rubus idaeus</i>
Guelder-rose <i>Viburnum opulus</i>	Red Campion <i>Silene dioica</i>
Gypsywort <i>Lycopus europaeus</i>	Red Clover <i>Trifolium pratense</i>
Hairy Violet <i>Viola hirta</i>	Red Oak <i>Quercus rubra</i>
Hairy Wood-rush <i>Luzula pilosa</i>	Reed Canary-grass <i>Phalaris arundinacea</i>
Hard Shield-fern <i>Polystichum aculeatum</i>	Reed Sweet-grass <i>Glyceria maxima</i>
Harebell <i>Campanula rotundifolia</i>	Rhododendron <i>Rhododendron</i> sp.
Hart's-tongue <i>Phyllitis scolopendrium</i>	River Water-crowfoot <i>Ranunculus fluitans</i>
Hawthorn <i>Crataegus monogyna</i>	Rosebay Willowherb <i>Chamerion angustifolium</i>
Hazel <i>Corylus avellana</i>	Rough Chervil <i>Chaerophyllum temulum</i>
Heather <i>Calluna vulgaris</i>	Round-leaved Crowfoot <i>Ranunculus omiophyllus</i>
Hedge Woundwort <i>Stachys sylvatica</i>	Rowan <i>Sorbus aucuparia</i>
Hemlock Water-dropwort <i>Oenanthe crocata</i>	Salad Burnet <i>Sanguisorba minor</i>
Hemp-agrimony <i>Eupatorium cannabinum</i>	Sanicle <i>Sanicula europaea</i>
Herb-Robert <i>Geranium robertianum</i>	Scarlet Pimpernel <i>Anagallis arvensis</i>
Hogweed <i>Heracleum sphondylium</i>	Scots Pine <i>Pinus sylvestris</i>
Holly <i>Ilex aquifolium</i>	Selfheal <i>Prunella vulgaris</i>
Honeysuckle <i>Lonicera periclymenum</i>	Sharp-flowered Rush <i>Juncus acutiflorus</i>
Indian Balsam <i>Impatiens glandulifera</i>	Silver Birch <i>Betula pendula</i>
Intermediate Polypody <i>Polypodium interjectum</i>	Skullcap <i>Scutellaria galericulata</i>
Ivy <i>Hedera helix</i>	Small-leaved Lime <i>Tilia cordata</i>
Ivy Broomrape <i>Orobanche hederae</i>	Small Teasel <i>Dipsacus pilosus</i>
Japanese Knotweed <i>Fallopia japonica</i>	Smooth Hawk's-beard <i>Crepis capillaris</i>
Knapweed Broomrape <i>Orobanche elatior</i>	Spindle <i>Euonymus europaeus</i>
Larch <i>Larix</i> sp.	Spurge-laurel <i>Daphne laureola</i>
Lavender <i>Lavandula</i> sp.	Square-stalked St John's-wort <i>Hypericum tetrapterum</i>
Leopard's-bane <i>Doronicum pardalianches</i>	Strawberry Clover <i>Trifolium fragiferum</i>
Lesser Burdock <i>Arctium minus</i>	Sweet Chestnut <i>Castanea sativa</i>
Lesser Celandine <i>Ranunculus ficaria</i>	Sweet Violet <i>Viola odorata</i>
Lilac <i>Syringa vulgaris</i>	Sycamore <i>Acer pseudoplatanus</i>
Lime <i>Tilia x vulgaris</i>	Tormentil <i>Potentilla erecta</i>
Lords-and-Ladies <i>Arum maculatum</i>	Traveller's-joy <i>Clematis vitalba</i>
Lungwort <i>Pulmonaria</i> sp.	

Trifid Bur-marigold *Bidens tripartita*
Twiggy Mullein *Verbascum virgatum*
Upright Hedge-parsley *Torilis japonica*
Violet Helleborine *Epipactis purpurata*
Wall-rue *Asplenium ruta-muraria*
Water-dropwort *Oenanthe* sp.
Water Figwort *Scrophularia auriculata*
Water-pepper *Polygonum hydropiper*
Wavy Bitter-cress *Cardamine flexuosa*
White Clover *Trifolium repens*
Wild Angelica *Angelica sylvestris*
Wild Cherry *Prunus avium*
Wild Strawberry *Fragaria vesca*
Wild Thyme *Thymus polytrichus*
Wood Anemone *Anemone nemorosa*

Wood Avens *Geum urbanum*
Wood Melick *Melica uniflora*
Wood Millet *Milium effusum*
Woodruff *Galium odoratum*
Wood Sage *Teucrium scorodonia*
Wood-sorrel *Oxalis acetosella*
Wood Speedwell *Veronica montana*
Woolly Thistle *Cirsium eriophorum*
Wych Elm *Ulmus glabra*
Yarrow *Achillea millefolium*
Yellow Archangel *Lamiastrum galeobdolon*
Yellow-rattle *Rhinanthus minor*
Yellow Star-of-Bethlehem *Gagea lutea*
Yew *Taxus baccata*

Fungi

Jew's Ear Fungus *Auricularia auricula-judae*
King Alfred's Cakes *Daldinia concentrica*
Parasol Mushroom *Lepiota procera*

Stinkhorn *Phallus impudicus*
Sulphur Tuft *Hypholoma fasciculare*
Tar-spot Fungus *Rhytisma acerinum*

Odonata

Banded Demoiselle *Calopteryx splendens*
Beautiful Demoiselle *Calopteryx virgo*
Black-tailed Skimmer *Orthetrum cancellatum*
Blue-tailed Damselfly *Ichnura elegans*
Brown Hawker *Aeshna grandis*
Club-tailed Dragonfly *Gomphus vulgatissimus*
Common Blue Damselfly *Enallagma cyathigerum*
Common Darter *Sympetrum striolatum*

Emerald Damselfly *Lestes sponsa*
Four-spotted Chaser *Libellula quadrimaculata*
Large Red Damselfly *Pyrrhosoma nymphula*
Migrant Hawker *Aeshna mixta*
Ruddy Darter *Sympetrum sanguineum*
Scarce Chaser *Libellula fulva*
Southern Hawker *Aeshna cyanea*

Orthoptera

Common Green Grasshopper *Omocestus viridulus*
Common Ground-hopper *Tetrix undulata*
Dark Bush-cricket *Pholidoptera griseoaptera*
Field Grasshopper *Chorthippus brunneus*

Meadow Grasshopper *Chorthippus parallelus*
Oak Bush-cricket *Meconema thalassinum*
Slender Ground-hopper *Tetrix subulata*
Speckled Bush-cricket *Leptophyes punctatissima*

Lepidoptera

Angle Shades *Phlogophora meticulosa*
Barred Straw *Eulithis pyraliata*
Blood-vein *Timandra comae*
Bordered White *Bupalus piniaria*
Bright-line Brown-eye *Lacanobia oleracea*
Brimstone *Gonepteryx rhamni*
Brimstone Moth *Opisthograptis luteolata*
Brown Silver-line *Petrophora chlorosata*
Buff Arches *Habrosyne pyritoides*
Burnet Companion *Euclidia glyphica*
Cinnabar *Tyria jacobaeae*

Clouded Border *Lomaspilis marginata*
Clouded Silver *Lomographa temerata*
Clouded Yellow *Colias croceus*
Comma *Polygonia c-album*
Common Blue *Polyommatus icarus*
Common Emerald *Hemitea aestivaria*
Common Marbled Carpet *Chloroclysta truncata*
Common Wave *Cabera exanthemata*
Common White Wave *Cabera pusaria*
Cream Wave *Scopula floslactata*
Dark Arches *Apamea monoglypha*

Dingy Skipper *Erynnis tages*
 Dot Moth *Melanchra persicariae*
 Dotted Border *Agriopsis marginaria*
 Double Square-spot *Xestia triangulum*
 Double-striped Pug *Gymnoscelis rufifasciata*
 Drinker *Euthrix potatoria*
 Elephant Hawkmoth *Deilephila elpenor*
 Engrailed *Ectropis bistortata*
 Fan-foot *Zanclognatha tarsipennalis*
 Flame Axylia *putris*
 Flame Shoulder *Ochropleura plecta*
 Fox Moth *Macrothylacia rubi*
 Freyer's Pug *Eupithecia intricata arceuthata*
 Gatekeeper *Pyronia tithonus*
 Grayling *Hipparchia semele*
 Green Arches *Anaplectoides prasina*
 Green-brindled Crescent *Allophyes oxyacanthae*
 Green Carpet *Colostygia pectinataria*
 Green Hairstreak *Callophrys rubi*
 Green Pug *Pasiphila rectangulata*
 Green Silver-lines *Pseudoips prasinana*
 Green-veined White *Pieris napi*
 Grey Arches *Polia nebulosa*
 Haworth's Pug *Eupithecia haworthiata*
 Hawthorn Ermine *Yponomeuta padella*
 Heart and Dart *Agrotis exclamationis*
 Holly Blue *Celastrina argiolus*
 Hummingbird Hawkmoth *Macroglossum stellatarum*
 Ingrailed Clay *Diarsia mendica*
 Large Skipper *Ochlodes venata*
 Large White *Pieris brassicae*
 Large Yellow Underwing *Noctua pronuba*
 Least Black Arches *Nola confusalis*
 Light Emerald *Campaea margaritata*
 Little Emerald *Jodis lactearia*
 Little Thorn *Cephalis advenaria*
 Lulworth Skipper *Thymelicus acteon*
 Marbled White *Melanargia galathea*
 Meadow Brown *Maniola jurtina*
 Miller *Acronicta leporina*
 Mother Shipton *Callistege mi*
 Mottled Beauty *Alecis repandata*
 Mottled Umber *Erannis defoliaria*
 Mullein *Shargacucullia verbasci*
 Muslin Moth *Diaphora mendica*
 Nettle Tap *Anthophila fabriciana*

Fish

Bullhead *Cottus gobio*

Mammals

Badger *Meles meles*
 Bank Vole *Clethrionomys glareolus*

November Moth *Epirrita dilutata*
 Orange Tip *Anthocharis cardamines*
 Painted Lady *Cynthia cardui*
 Pale Prominent *Pterostoma palpina*
 Peach Blossom *Thyatira batis*
 Peacock *Inachis io*
 Peppered Moth *Biston betularia*
 Plain Golden Y *Autographa iota*
 Poplar Hawkmoth *Laothoe populi*
 Pretty Chalk Carpet *Melanthis procellata*
 Purple Hairstreak *Quercusia quercus*
 Puss Moth *Cerura vinula*
 Red Admiral *Vanessa atalanta*
 Riband Wave *Idaea aversata*
 Ringlet *Aphantopus hyperantus*
 Rosy Underwing *Catocala electa*
 Sallow *Xanthia icteritia*
 Scalloped Hazel *Odontopera bidentata*
 Scarce Footman *Eilema complana*
 Scorched Carpet *Ligdia adustata*
 Short-cloaked Moth *Nola cucullatella*
 Silver-ground Carpet *Xanthorhoe montanata*
 Silver Y *Autographa gamma*

Six-belted Clearwing *Bembecia ichneumoniformis*
 Small Angle Shades *Euplexia lucipara*
 Small Clouded Brindle *Apamea unanimis*
 Small Copper *Lycaena phlaeas*
 Small Fan-foot *Herminia grisealis*
 Small Fan-footed Wave *Idaea biselata*
 Small Heath *Coenonympha pamphilus*
 Small Tortoiseshell *Aglais urticae*
 Small White *Pieris rapae*
 Snout *Hypena proboscidalis*
 Speckled Wood *Pararge aegeria*
 Spectacle *Abrostola tripartita*
 Square Spot *Paradarisa consonaria*
 Swallow-tailed Moth *Ourapteryx sambucaria*
 Tawny Speckled Pug *Eupithecia icterata*
 Wall Brown *Lasiommata megera*
 Water Carpet *Lampropteryx suffumata*
 White-line Dart *Euxoa tritici*
 Willow Beauty *Peribatodes rhomboidaria*
 Winter Moth *Operophtera brumata*
 Yellow Shell *Campetogramma bilineata*

Amphibians

Common Frog *Rana temporaria*
 Common Toad *Bufo bufo*

Brown Hare *Lepus capensis*
 Fallow Deer *Dama dama*

Fox *Vulpes vulpes*
Grey Squirrel *Sciurus carolinensis*
House Mouse *Mus musculus*
Leisler's Bat *Nyctalus leisleri*
Mink *Mustela vison*
Mole *Talpa europaea*

Noctule *Nyctalus noctula*
Otter *Lutra lutra*
Pipistrelle *Pipistrellus pipistrellus*
Polecat *Mustela putorius*
Rabbit *Oryctolagus cuniculus*
Water Vole *Arvicola terrestris*

Birds

Barnacle Goose *Branta leucopsis*
Blackbird *Turdus merula*
Blackcap *Sylvia atricapilla*
Black-headed Gull *Larus ridibundus*
Blue Tit *Parus caeruleus*
Bullfinch *Pyrrhula pyrrhula*
Buzzard *Buteo buteo*
Canada Goose *Branta canadensis*
Carrion Crow *Corvus corone corone*
Chaffinch *Fringilla coelebs*
Chiffchaff *Phylloscopus collybita*
Coal Tit *Parus ater*
Collared Dove *Streptopelia decaocto*
Common Gull *Larus canus*
Common Snipe *Gallinago gallinago*
Coot *Fulica atra*
Cormorant *Phalacrocorax carbo*
Cuckoo *Cuculus canorus*
Curlew *Numenius arquata*
Dipper *Cinclus cinclus*
Dunnock *Prunella modularis*
Fieldfare *Turdus pilaris*
Fulmar *Fulmarus glacialis*
Goldcrest *Regulus regulus*
Goldfinch *Carduelis carduelis*
Goosander *Mergus merganser*
Great Crested Grebe *Podiceps cristatus*
Great Spotted Woodpecker *Dendrocopos major*
Great Tit *Parus major*
Greenfinch *Carduelis chloris*
Green Woodpecker *Picus viridis*
Greylag Goose *Anser anser*
Grey Wagtail *Motacilla cinerea*
Heron *Ardea cinerea*
Herring Gull *Larus argentatus*
Hobby *Falco subbuteo*
House Martin *Delichon urbica*
House Sparrow *Passer domesticus*
Jackdaw *Corvus monedula*
Jack Snipe *Lymnocryptes minimus*
Jay *Garrulus glandarius*
Kestrel *Falco tinnunculus*
Lapwing *Vanellus vanellus*
Lesser Black-backed Gull *Larus fuscus*
Linnet *Carduelis cannabina*
Yellowhammer *Emberiza citrinella*

Little Grebe *Tachybaptus ruficollis*
Little Egret *Egretta garzetta*
Long-tailed Tit *Aegithalos caudatus*
Magpie *Pica pica*
Mallard *Anas platyrhynchos*
Marsh Tit *Parus palustris*
Meadow Pipit *Anthus pratensis*
Mistle Thrush *Turdus viscivorus*
Moorhen *Gallinula chloropus*
Mute Swan *Cygnus olor*
Nightjar *Caprimulgus europaeus*
Nuthatch *Sitta europaea*
Peregrine *Falco peregrinus*
Pheasant *Phasianus colchicus*
Pied Wagtail *Motacilla alba yarrellii*
Pochard *Aythya ferina*
Raven *Corvus corax*
Red-breasted Merganser *Mergus serrator*
Red Grouse *Lagopus lagopus*
Red Kite *Milvus milvus*
Red-legged Partridge *Alectoris rufa*
Redshank *Tringa totanus*
Robin *Erithacus rubecula*
Rook *Corvus frugilegus*
Sand Martin *Riparia riparia*
Shoveler *Anas clypeata*
Siskin *Carduelis spinus*
Skylark *Alauda arvensis*
Song Thrush *Turdus philomelos*
Sparrowhawk *Accipiter nisus*
Starling *Sturnus vulgaris*
Stock Dove *Columba oenas*
Swallow *Hirundo rustica*
Swift *Apus apus*
Tawny Owl *Strix aluco*
Titmouse *Parus* sp.
Treecreeper *Certhia familiaris*
Tufted Duck *Aythya fuligula*
Wheatear *Oenanthe oenanthe*
Wigeon *Anas penelope*
Willow Warbler *Phylloscopus trochilus*
Woodpigeon *Columba palumbus*
Wood Warbler *Phylloscopus sibilatrix*
Wren *Troglodytes troglodytes*

