

# Knepp Wildland Project

## Annual biodiversity report and monitoring update 2009



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# **Knepp Wildland Project**

## **Annual biodiversity report and monitoring update 2009**

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# **Annual biodiversity report and monitoring update 2009**

## **1. Introduction**

This year marked the expansion of grazing into the southwest corner of Knepp Castle Estate. An additional 445ha was fenced in spring 2009, following which 53 head of cattle were put on at the end of May, 10 Exmoor ponies at the end of August and some 20 Tamworth pigs in September. Pigs and deer will probably be able to wander into and out of this area using a passage under the road at Tenchford Bridge. The fencing was funded by Natural England.

Progress was also made towards the long-awaited re-naturalisation of the Knepp stretch of the River Adur. An EIA for this restoration has been produced by the Environment Agency (Sykes & Lewis 2009). An EIA is also being drafted by ESL (Ecological Services) Ltd for the dredging of Knepp Mill Pond.

Ecological monitoring continued in 2009 in accordance with the Monitoring Strategy (T. Greenaway, 2007), but was adjusted in order to meet developing priorities. One of these was the need to monitor ragwort, for which a protocol was utilised for the first time. Monitoring in 2009 thus included selected commissioned surveys repeating the methodologies initiated in 2005 together with a ragwort survey and a more extensive bat survey that extended the initial baseline survey of 2005. Those groups most likely to fluctuate in terms of diversity or size from year to year, such as breeding birds, are being surveyed annually to allow a far better analysis of the effects of grazing and other environmental factors. Other groups or habitats likely to show slower rates of change will be surveyed at less frequent intervals. The 2009 fieldwork was funded by the Knepp Castle Estate, with additional funding from Natural England for the bat survey.

Fencing the New Barn / Brookhouse area provided additional scope for baseline surveys prior to, or very shortly after, animals gaining access. Two particularly constructive meetings in January and April 2009 between members of Knepp Steering group and representatives of the BTO, RSPB, CEH and Bournemouth University resulted in stimulating discussion concerning possible future funding for the Wildland Project and an offer from Matt Heard (Head of Biodiversity & Conservation Management Group, NERC Centre for Ecology and Hydrology, Oxford) of 50 'person' days work aimed at carrying out intensive surveys over one week in July. The aim was to select 4 blocks of land, and in each to survey 4 land use types: grass, wood, old fallow, recent fallow using a combination of quadrats and line transects, also pan traps, moth traps, bee/butterfly transects, vortis suction samples and some soil monitoring.

In addition to the above, there have been a number of voluntary surveys including both focussed studies and casual wildlife observations.

A far less positive development has been the application of Cory Environmental to fill Laybrook Brick Quarry, barely 1km southwest of Knepp upstream of the Lay Brook, with non-inert waste. At the time of writing, this totally inappropriate proposal is in the hands of WSCC. This is a most unwelcome prospect, not only for the Wildland Project but also for all the adjacent villages in this quiet, rural part of West Sussex.

## 2. Fieldwork.

Table 1 shows all commissioned monitoring carried out in 2009. All other ecological work carried out during 2009 has been voluntary, and on behalf of the Knepp Wildland project I would like to thank all those who have generously contributed time and expertise.

**Table 1. Cost of commissioned survey & monitoring 2009.**

<b>Monitoring programme &amp; costs 2009</b>	<b>Cost</b>
Butterfly survey & FP photography	£400.00
Breeding bird survey	£2,250.00
Ragwort survey	£4,000.00
20% bat survey (80% funded by NE; £10,880)	£2,720.00
Digitising maps & other peripherals	£200.00
Project management & reports	£1,000.00
<b>Total</b>	<b>£10,570.00</b>

## 3. Summary of surveys

The full reports of commissioned surveys (Butterfly survey & Fixed-point photography, Breeding Bird Survey, Ragwort Monitoring and the Bat Survey) are obtainable from KCE, and a summary only is presented in this report. At the time of writing this report, CEH had not produced a report of the survey work carried out by its team in July. All other surveys are, as far as possible, also included or summarised in this report; any outstanding will be produced as a Supplement when they are available. Where not presented here, raw data is either held by T. Greenaway or the data collector.

### 3.1. Fauna

#### 3.1.1. Bat survey

The baseline bat survey undertaken in 2005 (Greenaway, 2006) showed that the estate had a significant bat interest. The aims of the 2009 survey, carried out by Frank Greenaway in May, July and August 2009 (Greenaway 2009) were to ascertain the level of bat use of the Adur floodplain and its tributaries as foraging habitat and to locate any nursery colonies within approximately a 2km radius of the survey area. To achieve this, bats were trapped and selected female bats were radio-tagged and tracked.

Thirteen species of bat were recorded during this survey. Twelve nursery roosts of 6 species, common and soprano pipistrelles, whiskered bat, Daubenton's bat, Natterer's bat and brown long-eared bat were located, 6 of which were in buildings and 6 in tree cavities. There was a high proportion of male bats, 33% in comparison with 40% females. This is unusual in an area supporting nursery colonies, the foraging areas of which are predominantly occupied by the females. The inference is that formerly, the arable regime on Knepp provided inadequate foraging resource to support breeding bats. As this has improved since the rewilding project first begun, nursery colonies are

becoming increasingly viable. The report will help to inform the river restoration project and form part of the wider biodiversity evaluation of the Wildland Project.

### **3.1.2. Breeding bird survey**

This survey repeated that of 2005, 2007 and 2008. The purpose of this survey is to monitor changes in breeding birds over time as the estate moves away from intensive arable land use to a more natural grazing system. The survey was undertaken by Paul James (James, 2009), who also carried out the previous years' surveys.

Two transects were surveyed from late March – June, one in the area north of the A272 and east of Shipley Road (area A) and another in the area south of Countryman Lane and west of New Barn Farm (area B). A total of ten visits was made to each transect in the period. The surveys were conducted and the results mapped using the standard Common Birds Census species and activity codes, and digitised by Sussex Biodiversity Record Centre.

59 species were recorded in the 2009 survey, of which 13 were Red List Species of High Conservation Concern and 15 Amber List Species of Medium Conservation Concern. These results again confirm that the Estate supports a rich breeding bird community, including birds such as turtle dove (red), cuckoo (recently upgraded from amber to red), barn owl (amber), skylark (red), nightingale (amber), bullfinch (downgraded from red to amber) and yellowhammer (red). The results for 2009 were broadly similar to those for previous years though there were significant increases in two species. Numbers of skylarks have increased year on year from just two in 2005 to 11 in 2009 while whitethroats have increased dramatically from a low of 5 in 2007 to 19 in 2009. The reasons for this are probably skylarks benefiting from the increased acreage of rough grassland and whitethroats from the brambles that are starting to establish themselves in some of the fields. On the debit side there were no records of woodlark in 2009. This is perhaps linked to an absence of bare fields within the study areas though encouragingly a singing male was observed near Goffslands Farm in late April 2009.

Four new bird species were recorded in 2009, bringing the total recorded in this survey since 2005 to 70. The additional species were grey partridge, hobby, redwing and lesser redpoll.

### **3.1.3. BTO Breeding Bird Survey (TQ1520)**

The BTO Breeding Bird Survey<sup>1</sup> takes place annually over a number of 100m grid squares, one of which (TQ1520) lies within the Wildland Project area. A transect across this square has been recorded by a volunteer in 2007, 2008 and 2009, and the Sussex Branch of the BTO kindly forwards the results. There is as yet no discernable trend apparent in these results as far as Knepp is concerned.

### **3.1.4. Barn owl survey**

Barrie Watson annually records barn owl breeding in nest boxes positioned in barns and trees across the Estate, and rings the chicks. In 2009, two adult barn owls and 25 owlets were ringed, bringing the total number of young barn owls ringed on the Estate by Barrie since 1996 to 94. One adult barn owl breeding on Knepp had been ringed in

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<sup>1</sup> <http://www.bto.org/bbs/>

2007 as a chick from South Godstone, Surrey – a dispersal distance of 32km. Another barn owl that had been ringed at Knepp in 2007 was found to be breeding in an owl box at Woods Mill, Sussex Wildlife Trust's nature reserve and headquarters. Unfortunately this owl has since been found dead, probably killed by an avian predator.

Knepp is thus both exporting and importing barn owls from the wider countryside. This is advantageous for maintaining a healthy gene pool. A further indication of just how beneficial the Wildland project is being for this owl was also observed by Barrie. In the southwest corner of the Estate, he located three barn owl nests within 500m – and there had been sufficient prey for there to be a small store of uneaten voles in each box. During the course of this year's barn owl monitoring, Barrie and his team also found 9 active nests of the amber-listed stock dove.

### **3.1.5. Grey partridge**

The grey partridge project is going well, with now 4 breeding pairs and some very successful fostering! For details see the Knepp Castle website, [www.knepp.co.uk](http://www.knepp.co.uk).

### **3.1.6. Butterfly & moth surveys.**

#### **Commissioned survey.**

This is the fourth year that butterflies have been surveyed by Rich Howorth (West Weald Landscape Project Officer, Sussex Wildlife Trust) along a transect set up in 2005 (Howorth, 2009). Although this transect is surveyed following Butterfly Conservation Society methodology, this methodology does recommend walking such transects once a week for 26 weeks from spring to autumn. Resources of time and money have limited this annual survey to just one day in July.

The weather in July was not ideal for butterflies, but a reasonable total of 825 individuals of 15 species were recorded on the day of the survey. To date, 2006 has seen the greatest number of species recorded and 2007 the greatest number of individuals. Identifying trends from one day's survey per annum has a wide margin of error, but there are points of interest in the 2009 data.

The most dramatic of these points of interest was the 313 records of painted lady butterflies, which made up 38% of the total numbers of individuals recorded. This 'invasion' of painted ladies has been widespread across the UK. Apart from this species, meadow browns and gatekeepers were, as always, far more abundant than the rest of the species although their numbers do fluctuate from year to year. Silver-washed fritillaries, a species of conservation concern, showed a welcome increase, at 34 individuals nearly doubling last year's records. Rich Howorth also recorded one small copper butterfly for the first time in this survey series.

#### **Additional butterfly survey in the New Barn / Brookhouse area.**

As part of the effort to obtain as much ecological information as possible on the newly fenced New Barn / Brookhouse part of the Estate, Dave Mercer (Natural England) carried out a further butterfly survey, walking a transect at intervals from May to September. The results of this survey are not yet available.

#### **Purple Emperors.**

The vigorous growth of dense willow scrub has proved highly beneficial for the purple emperor butterfly, a species of conservation concern. Matthew Oates (National Trust) recorded a female egg-laying near Brookhouse Farm in July, and subsequently found eggs and larvae elsewhere on the Estate. It is proving to be an early coloniser of the willow scrub. As Knepp also has the high-canopy oaks this splendid butterfly also needs for courtship, the vegetation changes occurring as a direct result of rewilding could be of significant benefit.

### **Moth Survey**

Malcolm Stevens and the Sussex Moth Group carried out one night's moth survey at the southern end of Knepp Mill Pond on 8<sup>th</sup> August 2009, repeating a similar survey they carried out in August 2008. The weather this year was far kinder to them and a total of 80 moth species was recorded – in 2008, a wet and windy night resulted in just 18 species (Appendix 1). Together, these two surveys have added some 27 species to the Knepp moth list, although there may be records not yet received.

#### **3.1.7. Other invertebrates**

The Centre for Ecology and Hydrology team also carried out invertebrate surveys, the records for which are not yet available.

## **3.2. Flora**

No botanical surveys other than ragwort monitoring were commissioned during 2009, but the Centre for Ecology and Hydrology team carried out a botanical survey in the New Barn / Brookhouse area, employing a method of random stratified quadrats. The results of this are not yet available.

### **3.2.1. Ragwort Monitoring**

The presence of ragwort on parts of the Estate has caused considerable concern among some neighbouring landowners. In response to this, a strategy for ragwort control was drawn up in consultation with the Knepp Steering Group (Greenaway 2009) that was closely in line with the Defra Code. Ragwort is to be monitored annually in order to assess whether it will decline as a more established vegetation develops following arable reversion. 2009 saw the first year of ragwort monitoring (Toe & Greenaway 2009) and it will be extremely instructive to repeat this survey annually in order to identify any changes in ragwort distribution or abundance.

It is unlikely that ragwort will ever be eradicated from Knepp, and as a native wild plant, such an outcome is undesirable. But it is hoped that the flush of ragwort seen in some fields and recorded as 'Abundant' will diminish as the vegetation structure and soils change to a more natural dynamic following arable reversion.

### **3.2.2. Lichen survey**

Sussex Lichen Group recorded 65 species of lichen on 7<sup>th</sup> March 2009, focussing on the large oaks and ashes around the Coates Furzefield woodland and the line of trees along the footpath to the east. This total included 2 Sussex-rare species, *Fuscidea lightfootii* and *Caloplaca cerina*. Two members of the group also recorded 36 bryophytes (mosses and liverworts) from this area. Lichens and bryophytes are two very under-recorded groups on Knepp, and some of the older trees may well support further lichen species of conservation interest..

### **3.3. Habitat & vegetation structure**

#### **3.3.1. Fixed-point photography of the Knepp Estate 2005-2009.**

Fixed-point photography has been carried out by Rich Howorth in conjunction with the butterfly survey in 2005, 2007, 2008 and 2009 (Howorth 2009). The aim is to enable a visual comparison and detection of changes in vegetation structure over time. The points selected represent geographical range, habitat diversity and past management regimes within the Wildland project area.

A visual comparison of this year's pictures suggests that there has been a further increase in the cover of agricultural weeds species, notable creeping thistle and also ragwort, and common dock. It was observed by Howorth that the pigs seemed to favour these areas. There has also been an increase in the cover of coarser vegetation of bramble, bracken and rushes in some places, with longer, coarser vegetation also in the grassland north of the A272.

#### **3.3.2. Woody seedling & browsing.**

27 Acres Field is in the recently fenced New Barn / Brookhouse area of the Knepp Castle Estate. It has been fallow since 2005. As part of the baseline audit of this area prior to the introduction of cattle, ponies and fallow deer, it was decided to attempt a count of the woody seedlings/saplings that have become established in 27 Acres, and to record the incidence of browse. Such browsing would have been due to roe deer and rabbits.

The count took place over 2-3 days in March 2009, and was carried out by a number of volunteers led by Charlie Burrell and Ted Green. Counting in 27 Acres was limited to oak, willow and birch, although there was a considerable amount of bramble, wild rose, blackthorn and hawthorn. In places, willow and oak seedling establishment was so dense that counting individuals was unrealistic.

The average height of the oak seedlings measured was 70 cm. The results obtained (Table 3) should be viewed as an indication of oak and willow spread following arable reversion and the baseline level of browsing. Although a broad-brush approach, repeating this count at 5-year intervals should permit a fair evaluation on the effects of browsing on oak, willow and birch regeneration before and after the introduction of cattle, ponies and pigs.

**Table 2. Levels of browsing on oak, willow and birch saplings.**

<b>Species</b>	<b>Number</b>	<b>% Browsed</b>
Oak	138	83
Willow	168	59
Birch	10	70

A similar count was carried out on New Barn 2 field. The results of this have not yet been entered onto computer, but a visual assessment of the field sheets indicates that over 90% of those woody saplings counted had been grazed/browsed. Evaluating all these figures and expanding this survey further would be extremely instructive.



### **3.3.3. Hedgerow survey**

Peter Challis (Sussex Hedgerow Inventory Project) began work on recording hedgerows across Knepp in summer 2009. Work has taken place in both the southwest corner of the Estate and in the north, surveying the hedgerows associated with parts of the Horsham Common SSSI complex. This is a voluntary survey carried out by volunteers who are trained by Peter Challis. Full details of Knepp hedgerows, and the Sussex Hedgerow Inventory Project are obtainable from Peter at [hedgerows@sussexwt.org.uk](mailto:hedgerows@sussexwt.org.uk).

### **3.3.4. Veteran trees.**

Veteran trees on the Knepp Estate are being recorded by various volunteer groups. This is being organised by Ali Wright (Ancient Tree Hunt Verifier). The Hedgerow Survey volunteers are recording big trees in hedges in the southern part of the estate. West Sussex Ranger volunteers are following on to record veteran trees that the hedgerow survey leaves out – those in woodlands, shaws, fields and parkland. Other people are looking for the old trees in the northern part of the estate. A training day for West Sussex Tree Wardens made a start on trees in the parkland.

All records will be entered onto the Ancient Tree Hunt website interactive map. Details of individual trees, including photos, can be seen at: [www.ancient-tree-hunt.org.uk](http://www.ancient-tree-hunt.org.uk). The site also gives a wealth of information about the importance of ancient trees and the biodiversity that relies on them. This survey will be continued in 2010, so if you would like to help record veteran trees at Knepp please contact Ali Wright [alisonwright@sussexwt.org.uk](mailto:alisonwright@sussexwt.org.uk).

## **4. Incidental species records.**

There have been a number of incidental records of other species. Ravens have been seen on more than one occasion in the Deer Park area – there is a distinct possibility they will be breeding here soon. Ted Green and Jill Butler also spotted a yellow wagtail on the polo pitch in September. A female stag beetle was found by Nancy Burrell in the Bothy. Surprisingly, this is the first known record of stag beetles on Knepp. Perhaps this indicates that a stag beetle survey should be carried out next year?

Common spotted and early purple orchids seem to be increasing, but the highlights of the year were greater butterfly orchid and bird's nest orchid, both flowering in Great Cockshill Wood in June, and southern marsh orchid flowering on New Barn Farm.

## **5. Discussion.**

There are now six years of baseline data and repeat surveys. This represents a lot of survey effort and considerable funding. We are all impatient to see clear, positive effects arising from the wildland initiative. Where are they? Well, six years is no time at all with respect to biodiversity and ecological changes. Populations of many 'desirable' species of birds, butterflies and wild flowers started from a very low level, in Knepp and the wider countryside. It will take rather longer than six years before significant increases are seen.

However, there are promising signs in 2009, especially the increase in skylarks and whitethroats along transect B, across the New Barn / Brookhouse area, and the appearance of purple emperor butterflies utilising the vigorous growth of willow, also in this part of the Estate. Silver-washed fritillaries are also increasing, although this species seems to be increasing generally in Sussex. The bat survey was also very encouraging; locating nursery colonies of six species on or very close to Knepp is a good result, and there are likely to be more such colonies elsewhere on the Estate. Female bats require good foraging resources to cope with the demands of pregnancy and lactation, and their presence is a firm indication that there is a healthy insect abundance. This in turn reflects the quality of the habitat mosaic, including open water, wet woodland, oak woodland, scrub and varied grassland, together with the insect fauna associated with organically-reared animals.

The survey effort over the past 5 years has resulted in an increasingly large quantity of data that has been collected by commissioned ecologists and voluntary effort. Most of the data has been entered onto computer, but there are still some datasets awaiting transfer from field sheets. At key intervals this data needs to be evaluated by experts able to interpret it and identify ecological changes and possible trends.

Next year, 2010, some additional repeats of the 2005 surveys are planned, including a repeat of the eight belt transects designed to monitor changes in vegetation composition following the introduction of grazing herbivores. Looking further into the future, 2015 will mark the 10<sup>th</sup> anniversary of the baseline ecological survey, published as English Nature Research Report No. 693. This will be the year when as much effort as possible should be put into both repeating surveys and a thorough evaluation of all the effects that the Wildland Project has had on all aspects of biodiversity, ecology and landscape. As well as these issues, it will be a sound opportunity to evaluate the social and economic effects of the project. Although still six years away, it is not too soon to start planning ahead for this.

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## Appendix I.

### Moth Surveys 2008 & 2009.

Common name	Latin name	2008	2009
Angle Shades	<i>Phlogophora meticulosa</i>		Y
Black Arches	<i>Lymantria monacha</i>		Y
Blood-vein	<i>Timandra comae</i>		Y
Brimstone	<i>Opisthograptis luteolata</i>	Y	Y
Broad-bordered Yellow Underwing	<i>Noctua fimbriata</i>		Y
Bulrush Wainscot	<i>Nonagria typhae</i>		Y
Canary Thorn	<i>Ennomos alinaria?</i>		Y
Chequered Fruit-Tree Tortrix	<i>Pandemis corylana</i>		Y
Chequered Pearl	<i>Evergestis Pallidata</i>		Y
Common Rustic sp.	<i>Holpodrina blanda?</i>		Y
Common Wainscot	<i>Mythimna pallens</i>		Y
Common White Wave	<i>Cabera pusaria</i>		Y
Common Yellow Conch	<i>Agapeta hamana</i>		Y
Common/lesser common rustic sp.	<i>Mesapamea sp</i>	Y	
Copper Underwing	<i>Amphipyra pyramidea</i>		Y
Coronet	<i>Craniophora ligustri</i>		Y
Coxcomb Prominent	<i>Ptilodon capucina</i>		Y
Dagger sp.			Y
Dark Sword-grass	<i>Agrotis ipsilon</i>		Y
Dingy Dowd	<i>Blastobasis adustella</i>		Y
Dingy Footman	<i>Eilema griseola</i>		Y
Dunbar	<i>Cosmia trapezina</i>	Y	Y
Dusky Thorn	<i>Ennomos fuscantaria</i>		Y
Flame Carpet	<i>Xanthorhoe designata</i>		Y
Flame Shoulder	<i>Ochropleura plecta</i>	Y	Y
Flounced Rustic	<i>Luperina testacea</i>		Y
Gold Spot	<i>Plusia festucae</i>		Y
Grey Pug	<i>Eupithecia subfuscata</i>		Y
Iron Prominent	<i>Notodonta dromedarius</i>	Y	Y
Knapweed Conch	<i>Agapeta zoegana</i>		Y
Lage yellow underwing	<i>Noctua pronuba</i>	Y	Y
Least Yellow Underwing	<i>Noctua interjecta</i>		Y
Lesser Broad-bordered Yellow Underwing	<i>Noctua janthe</i>		Y
Lesser Yellow Underwing	<i>Noctua comes</i>		Y
Lime-speck Pug	<i>Eupithecia centaureata</i>		Y
Maidens Blush	<i>Cyclophora punctaria</i>		Y
Marsh Grey	<i>Eudonia pallida</i>		Y
Mother of Pearl	<i>Pleuroptya ruralis</i>		Y
no English name	<i>Aethes rubigana</i>	Y	
no English name	<i>Agonopterix arenella</i>	Y	
no English name	<i>Agriphila straminella</i>	Y	
no English name	<i>Agriphila tristella</i>		Y
no English name	<i>Bactra lancealana</i>	Y	
no English name	<i>Bactra robustana</i>		Y
no English name	<i>Blastobasis lignea</i>	Y	
no English name	<i>Carcina quercana</i>	Y	
no English name	<i>Celypha lacunana</i>	Y	

no English name	<i>Cnephasia sp.</i>		Y
no English name	<i>Eudonia mercurella</i>	Y	
no English name	<i>Epinotia nisella</i>		Y
Ermine sp.			Y
Minor sp.			Y
no English name	<i>Phycita roborella</i>	Y	Y
no English name	<i>Limnaecia phragmitella</i>		Y
no English name	<i>Dipleurina lacustrata</i>		Y
Nut-tree Tussock	<i>Colocasia coryli</i>		Y
Oak Eggar	<i>Lasiocampa quercus</i>		Y
Oak Hook-tip	<i>Watsonalla binaria</i>		Y
Olive	<i>Ipimorpha subtusa</i>		Y
Orange Swift	<i>Hepialis hecta</i>		Y
Pale Prominent	<i>Pterostoma palpina</i>		Y
Pale Water-veneer	<i>Donacula forficella</i>		Y
Peach Blossom	<i>Thyatira batis</i>		Y
Red Twin-spot Carpet	<i>Xanthorhoe spadicearia</i>		Y
Red-barred Tortrix	<i>Ditula angustiorana</i>		Y
Riband Wave	<i>Idaea aversata</i>		Y
Rosy Minor	<i>Mesoligia literosa</i>		Y
Rosy Tabby	<i>Endotricha flammealis</i>		Y
Ruby Tiger	<i>Phragmatobia fuliginosa</i>	Y	Y
Rush Veneer	<i>Nomophila noctuella</i>	Y	Y
Sallow Kitten	<i>Furcula furcula</i>		Y
Scalloped Oak	<i>Crocallis elinguaris</i>		Y
Setaceous Hebrew Character	<i>Xestia c-nigrum</i>		Y
Shuttle-shaped Dart	<i>Agrotis puta</i>		Y
Silver Y	<i>Autographa gamma</i>		Y
Six-striped Rustic	<i>Xestia sexstrigata</i>		Y
Small China-mark	<i>Cataclysta lemnata</i>		Y
Small Wainscot	<i>Chortodes pygmina</i>		Y
Smoky Wainscot	<i>Mythimna impura</i>		Y
Spectacle	<i>Abrostola tripartita</i>		Y
Square Spot Rustic	<i>Xestia xanthographa</i>		Y
Straw Dot	<i>Rivula sericealis</i>	Y	Y
Straw Grass-veneer	?		Y
Straw Underwing	<i>Thalpophila matura</i>		Y
Swallow Prominent	<i>Pheosia tremula</i>		Y
Twin-spotted Wainscot	<i>Archanara geminipuncta</i>		Y
Webb's Wainscot	<i>Archanara sparganii</i>		Y
Willow Beauty	<i>Peribatodes rhomboidaria</i>		Y
Yellow-tail	<i>Euproctis similis</i>		Y