

LEPIDOPTERA SURVEY AT OLD DOWN, KEMPSHOTT, BASINGSTOKE & DEANE PUBLIC  
OPEN SPACE, Vice County 12, North Hampshire, Tetrad SU59-48-, 2010-2011  
By A. H. Dobson (AHD) and G. A. Henwood (GAH)

Compiled by A. H. Dobson

Copies to: Paul Beevers, Chairman of the Old Down & Beggarwood Wild Life Group  
Hampshire Biodiversity Information Centre, H.C.C.  
Mike Wall, County Micromoth Recorder  
G. A. Henwood.

## A. AIMS

1. Survey and study the Lepidoptera of Old Down,
2. Provide a list of food plants and the number of Lepidoptera reliant on each,
3. Review current conservation and its effects on the Lepidoptera and add recommendations for further Improvement.
4. Comment on the Red Data Book, Nationally Scarce species and rare species in VC 12 specifically, as well as the rest.

## B. VISITS

2110: 8 evening/night visits from April 27 to October 8, equipment in AHD`s car was taken to the light trapping sites (AHD`s MV and Heath traps, generator & GAH`s actinic trap); on the night of September 4, wine ropes placed on tree branches attracted moths, including a red underwing moth. 2 day visits, the first on June 3, with sticks & beating trays to dislodge larvae from foliage, when a Purple Emperor butterfly larva was obtained from *Salix caprea* (goat willow) and the second on June 22, when it was photographed and released and GAH used pheromones to attract Orange-tailed Clearwing moths.

2011: 7 evening/night visits: March 16, jarring willow blossom with sticks & beating tray & sheet underneath for the moths to fall on; April 1 to September 29, by using AHD & GAHs` cars, more equipment could be moved (generator, 2 MV light traps, a Heath & actinic traps). 3 day visits: March 11, AHD searching for leaf miners on beech; June 17, when AHD used a sweep net and GAH, Paul Beevers and Martina searched for Sweet Vernal Grass and June 20, when AHD used a sweep net for larvae and micromoths. In both years, dusking with nets and torch/lantern was carried out in the evenings.

## C. RESULTS

### 1. IDENTIFICATION

All moths were released when identified by AHD & GAH, but a few were retained as voucher specimens or for identifications. With difficult species, where genitalia dissection was required, the macromoths were determined by AHD and the micromoths were posted to Jon Clifton for determination.

### 2. RECORDS

By the end of each year, records were sent to Mike Wall and Tim Norris, county moth recorders.

### 3. NATIONAL STATUS

Of species recorded:

p.Red Data Book 3: one, 896 *Cosmopterix orichalcea*

Nationally Scarce: three, 173 *Apodes limacodes* (festoon) Nb  
 379 *Synanthedon andraenaeformis* (orange-tailed clearwing) Nb  
 718 *Ethimia dodecea* Nb

Local (macromoths only): 24

Common (macromoths only): the remainder.

#### 4. SPECIES OF VICE COUNTY IMPORTANCE

- 251 *Ochseneimoria taurella* , 3<sup>rd</sup> record  
 566 *Coleophora sternipenneella*, 2<sup>nd</sup> record  
 674 *Depressaria badiella*, 6<sup>th</sup> site  
 698 *Agonopterix kaekeritziana*, 4<sup>th</sup> record  
 896 *Cosmopterix orichalcea*, very rare in the county and in VC 12 previously only recorded from Leckford in 1987 & 1988  
 1022a *Cnephasia pumicana*, 5<sup>th</sup> record & 3<sup>rd</sup> site  
 1689 *Scopula marginepunctata* (mullein wave), furthest north record in Hampshire  
 2399 *Pyrrhia umbra*, (bordered sallow), a new breeding colony of this diminishing rare species

#### 5. TOTALS RECORDED:

Macrolepidoptera	114
Microlepidoptera	176
Total moths	290
Butterflies	19 recorded by others & ourselves

#### D. CONSERVATION FOR LEPIDOPTERA

Invertebrates form an important part of the foodplant chain. Conserving the Lepidoptera will benefit all of the invertebrates and in turn the birds and mammals.

##### 1. TREE & SHRUB MANAGENENT

Old Down is in a very “open” situation and is often battered by strong winds, so the shelter belt of beech trees and the scrub can offer protection. However uncontrolled growth of scrub could result in too much woodland. Over the years, one needs to thin out the council planted bush areas and to reduce the height of fast-growing tall species on the periphery, aiming to produce scrubland with a few trees and bushes of varying height to add diversity and a more attractive view of the downscape. To assist in removing or planting, I have listed each species with the total number of Lepidoptera species and the number of Lep. Species for which it is the “Sole” food plant plus “esp”= *especially liked by*. Polyphagous (*meaning many foodplants*) Lep. species.

Trees & Shrubs	Total	Sole+esp	Herbaceous Plants	Total	Sole+esp
Oak	32	16	Wild raspberry	5	
Hawthorn	20	6	Ash	4	2
Sallow	19	10	Wild privet	4	2
Blackthorn	16	5	Spindle	3	3
Beech	13	8	Holly	3	1
Birch	11	5	Sycamore	2	1
Bramble	11	1	Elder	2	1
Dog rose	7	4	Wayfaring tree	2	2
Hazel	7	2	Ivy	2	

Field maple	6	4	Dogwood	1	
Wild cherry	6	3	Gorse	1	

Polyphagous

Species to be discouraged: wild raspberry (lep. species on this foodplant also feed on bramble), holly sycamore, elder, ivy, dogwood and gorse. Bramble in front of the southern tree scrub belt could be allowed to “bush” up in a few places to provide another nectar source. Elder, dogwood and gorse are unattractive to most invertebrates, however dogwood has in its favour, attractive autumn foliage and sometimes its flowers are host to the first brood larvae of the Holly Blue butterfly, so please leave a few bushes. Spindle is to be encouraged, as it is the sole foodplant for 3 lep. species. There are enough Wayfaring Tree bushes to support the two Lep. species (one Notable) here and in the surrounding countryside. To help attract more Lep. species, could a few more Sallow (also a spring nectar source) and Birch be planted, but only two or three of the latter, because it can become invasive and appear “out of character” on downland. GAH suggests planting Honeysuckle as a food plant and nectar source for moths.

2. GROUND COVER MANAGEMENT

(a) CUTTING

Ideally the area should be divided into three compartments, with one cut in each of the three years, so the first compartment is cut, the second one has one years growth and the third two years growth to give a variety of height and growth so that moving from one compartment to another overwintering stages of Lepidoptera can survive, as well as attracting more Lepidoptera species. The worse scenario is where the whole area is cut, which Old Down approaches, so that the quality and quantity of Lepidoptera are much reduced. For an example the pRed Data Book species *Cosmopterix orichalcea* lays its ova in July, the larvae feed from August to May on *Anthroxanthemum odoratum* (sweet vernal grass) and the pupae are in rolled leaves on the ground in May and June. Cutting the grass will probably wipe it out! We were pleased to be told that the grass sward in the south west of Old Down near the arable field has strips left in rotation. It was there that 251 *O. taurella* was found. The ova are laid on grasses from July to September and over winter to April, when the resulting larvae start feeding. Perhaps this conservation policy could be continued and extended to other areas on the wide open space. Leaving uncut in alternate years parts of the tumulus area is excellent as a number of local and scarce species are found there. At the end of 2011, another species *Coleophora argentina* cases, new to Old Down, were found on uncut yarrow seed heads near the grassy mound close to Old Down hall.

(a) SPECIES

There are 61 Lepidoptera species polyphagous on herbaceous plants. Some of these prefer certain plant and grass species and are noted as “especially” in the literature. From the main list, species that are hosts to five or more Lep. species, are highlighted in the list below, to stress the importance of leaving or increasing them.

Herbaceous Plants	Total	Sole+esp	Herbaceous Plants	Total	Sole+esp
Common nettle	12	9	Lady`s bedstraw	5	1
Cleavers	8	2	Ox-eye daisy	5	1
Common ragwort	8	4	Wild marjoram	5	2
Dandelion	8	4	Plantains	5	1
White clover	7	1	Knotgrass	5	3
Yarrow	6	2	Docks	5	4
Hedge bedstraw	6	3	Charlock	5	1

Red clover	6		Hop trefoil	5	1
Garlic mustard	5	2	Lesser trefoil	5	
Shepherd`s purse	5	1			

All the rest are host to less than 5 Lepidoptera. While we are sure you will be pleased to see Lady`s Bedstraw, Ox-Eye Daisy and Wild Marjoram, the plants one regards as “weeds” i.e. Stinging Nettle, Cleavers and Common Ragwort, are frowned upon. Ragwort has eight Lep. species, two its sole foodplant and two the favourite foodplant. It is a good nectar source for moths and other invertebrates, so please leave a patch or two!

The following plants also need to be encouraged, because they are sole foodplants (Lep. numbers in Brackets): Perforate St John`s-wort (3); Orache, Common Restharrow (2); Kidney Vetch, Mugwort, Musk Thistle, Common Mouse-Ear, Spear Thistle, Field Bindweed, Field Scabious, Common Bird`s-Foot Trefoil, Red Bartsia, White Champion and Cltsfoot (1). If these species are lost, so will the butterfly and moths dependant on them. GAH suggests that Horseshoe Vetch areas be extended to attract Chalkhill Blue butterflies to colonize and to increase Wild Thyme and introduce Rock Rose, both species which appear to withstand the ravages of wild rabbits in other HCC sites.

GRASSES: 44 Lepidoptera species have grasses as their foodplant. For these only one, Sweet Vernal Grass, is the sole species of a rare moth. All the other Lep. species are polyphagous, but some have a favourite foodplant (esp). Below is highlighted a list of such grasses with the number of Lep. species in brackets:

Cocks-foot (10); Annual Meadow Grass (6); Sheep`s Fescue, Rough Meadow Grass (5). GAH suggests encouraging more fescue grasses.

These have as their pabulum (*sources of nourishment*) for 3 or more Lep. species: lichens (5); leaf litter and mosses (3).

#### E. SCARCE SPECIES CONSERVATION

The following scarce moths need these foodplants:

- 896 *orichalcea* pRDB3 - Sweet Vernal Grass
- (173 *limacodes* (festoon) Nb - not in danger as Beech and Oak are present)
- (118 *dodocea* Nb - a vagrant as its foodplant Common Gromwell is not at O.D.)
- 251 *taurella* - Cock`s-foot, Soft Brome and Meadow Grasses
- 566 *sternipennella* - Orache is the sole foodplant at O.D., essential to save
- 674 *badiella* - Cat`s Ear, Charlock, Dandelions
- 698 *kaekerikziana* - found in the tumulus area, Lesser & Greater Knapweeds
- 1022a *pumicana* - compositae and Buttercups
- (1689 *marginepunctata* (Mullein Wave) – not at risk, as it is polyphagous)
- 2389 *umbra* (Bordered Sallow) - breeding on Restharrow in the tumulus area, important to save as the moth has been disappearing due to habitat loss.

#### F. EXPLANATION FOR THE LIST OF FOODPLANTS & NUMBER OF LEPIDOPTERA SPECIES PER PLANT

1. The aim of the list is to show the relative importance of each plant to the Lepidoptera and prove a useful guide for conservation.
2. The list of trees, shrubs and ground cover plants is from the Hampshire Biodiversity Information Survey on 08.08.2008 and with additional plants recorded since by Martina; both lists were given to me by Paul Beevers. Only species which are hosts to the Lepidoptera are included.
3. Details of the foodplants were obtained from charts showing the life history and habits of the British Lepidoptera by A. M. Emmett (1991) in *The Moths and Butterflies of Great Britain and*

Ireland, Volume 7, Part 2. Species, which are stated to be polyphagous but supplemented by “especially on ....” (plant name(s)) are included in both polyphagous and plant species numbers. Species having only from 2 to 4 foodplants have been accounted for in the number of each foodplant. Where a macrolepidoptera species has plants listed, which are not at Old DOWN, *The Field Guide to the Moths of Great Britain and Ireland*, by Paul Waring & Martin Townsend, has been consulted. If the foodplants for micromoths in Emmett and macromoths in both books are not found at Old Down, the Lepidoptera species is regarded as a vagrant. As full details have already been given for the tree/shrub level, this is not being replicated.

## G. GROUND COVER

FLOWERING PLANTS	Total	Sole+esp
<i>Achillea millefolium</i> (yarrow)	7	2
<i>Alliaria petiolata</i> (hedge mustard)	5	2
<i>Anthriscus sylvestris</i> (cow parsley)	1	
<i>Anthyllis vulneraria</i> (kidney vetch)	1	1
<i>Arctium minus</i> (lesser burdock)	1	
<i>Artemisia vulgaris</i> (mugwort)	3	1
<i>Atriplex</i> sp. (orache)	3	3
<i>Bellis perennis</i> (daisy)	2	
<i>Brassica oleracea</i> (wild cabbage)	4	
<i>Capsella bursa-pastoris</i> (shepherd's purse)	5	
<i>Carduus nutans</i> (musk thistle)	2	1
<i>Centaurea nigra</i> (lesser knapweed)	3	
<i>C. scabiosa</i> (greater knapweed)	2	
<i>Cerastium fontanum</i> (common mouse-ear)	1	1
<i>Cirsium arvense</i> (creeping thistle)	2	
<i>C. vulgare</i> (spear thistle)	4	1
<i>Convolvulus arvensis</i> (field bindweed)	1	1
<i>Crepis capillaris</i> (smooth hawk'-beard)	4	3
<i>Daucus carota</i> (wild carrot)	1	
<i>Dipsacus fullonum</i> (teasel)	1	
<i>Echium vulgare</i> (viper's bugloss)	1	
<i>Epilobium</i> spp (willow herbs)	1	
<i>Erodium cicutarium</i> (common storksbill)	1	1
<i>Galium album</i> (hedge bedstraw)	6	3
<i>G. aparine</i> (cleavers)	8	3
<i>G. verum</i> (lady's bedstraw)	5	1
<i>Geranium pyrenaicum</i> (hedgerow crane`s-bill)	1	
<i>Glechoma hederacea</i> (ground ivy)	1	
<i>Heracleum sphondylium</i> (hogweed)	3	
<i>Hypericum perforatum</i> (perforate St.John`s wort)	3	3
<i>Hypochaeris radicata</i> (cat`s ear)	1	
<i>Knautia arvensis</i> (field scabious)	2	1
<i>Lactuca serriola</i> (prickly lettuce)	1	1
<i>Lamium album</i> (white dead-nettle)	3	1
<i>Lathyrus pratensis</i> (meadow vetchling)	1	
<i>Leucanthemum vulgare</i> (ox-eye daisy)	5	2
<i>Lotus corniculatus</i> (common bird`s-foot trefoil)	4	1
<i>Medigo lupulina</i> (black medick)	3	
<i>Onobrychis viciifolia</i> (sanfoin)	1	

<i>Odentites vernus</i> (red bartsia)	1	1
<i>Ononis repens</i> (common restharrow)	4	2
<i>Origanum vulgare</i> (wild marjoram)	5	2
<i>Pastinaca sativa</i> (wild parsnip)	2	1
<i>Plantago spp.</i> (plantains)	5	1
<i>Polygonum aviculare</i> (knot grass)	5	3
<i>Primula veris</i> (cowslip)	1	1
<i>P. vulgaris</i> (primrose)	2	2
<i>Prunella vulgaris</i> (self heal)	1	
<i>Pulicaria dysenterica</i> (common fleabane)	3	
<i>Rhinanthus minor</i> (yellow rattle)	1	
<i>Rumex spp.</i> (docks)	5	4
<i>Senecio erucifolius</i> (hoary ragwort)	2	
<i>S. vulgaris</i> (groundsel)	2	
<i>S. jacobaea</i> (common ragwort)	8	4
<i>Silene latifolia</i> (white campion)	1	1
<i>Sinape arvensis</i> (charlock)	5	1
<i>Sonchus spp.</i> (sow thistles)	3	
<i>Stachys sylvatica</i> (woundwort)	2	
<i>Taraxacum officinale</i> (dandelions)	8	4
<i>Thymus serpyllum</i> (wild thyme)	1	
<i>Trifolium campestre</i> (hop trefoil)	5	
<i>T. dubitum</i> (lesser trefoil)	5	
<i>T. pratense</i> (red clover)	6	
<i>T. repens</i> (white clover)	7	1
<i>Tussilago farfara</i> (coltsfoot)	3	1
<i>Urtica dioica</i> (common nettle)	12	9
<i>Vicia spp.</i> (vetches & tares)	1	
Polyphagous ( <i>meaning many foodplants</i> ) on herbaceous plants	61	

## 2. GRASSES

<i>Anthoxanthum odoratum</i> (sweet vernal grass)	1	1
Polyphagous on grasses	44	
Grass species especially preferred by Lepidoptera:		ESP
<i>Agrotis spp.</i> (bents)		2
<i>Arrhenatherum elatius</i> (false oat-grass)		2
<i>Brachypodium pinnatum</i> (tor grass)		1
<i>Bromus hordeaceus</i> (soft brome)		1
<i>Dactylis glomerata</i> (cock`s foot)		10
<i>Elytrigia repens</i> (couch grass)		3
<i>Festuca rubra</i> (red fescue)		3
<i>F. ovina</i> (sheep`s fescue)		5
<i>F. pratensis</i> (meadow fescue)		3
<i>Lolium perenne</i> (perennial rye-grass)		1
<i>Luzula campestris</i> (field wood-rush)		1
<i>Poa annua</i> (annual meadow grass)		6
<i>P. trivialis</i> (rough meadow grass)		5

### 3. OTHER

	TOTAL	SOLE + ESP
Animal: faeces & dead	1	1
Bird droppings	2	
Bird nests	1	
Comb in Hymenoptera (Bees and Wasps) nests	1	1
Dead leaves & leaf litter	4	3
Decaying plant material	2	1
Dry vegetable matter	2	
Lichens	6	5
Mosses	4	3

### 4. VAGRANT LEPIDOPTERA (visitors & their foodplants not at Old Down)

<b>(a) Trees &amp; shrubs:</b>	TOTAL	
Alder buckthorn	1	
Aspen	2	
Buckthorn	2	
Honeysuckle	2	
Lawson`s cypress & Leyland cypress	1	
Pines	2	
<b>(b) Ground cover:</b>		
Aquatic plants	1	
Bilberry	1	
Common Gromwell	1	
Hemp nettles	1	