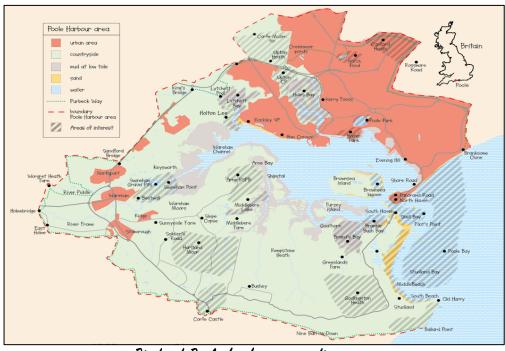


Moths of Poole Harbour is a project of Birds of Poole Harbour

Moths on Ballard Down 2018 - 2019

The 'Moths of Poole Harbour' project was set up in 2017 to gain knowledge of moth species occurring in Poole Harbour, Dorset, their distribution, abundance and to some extent, their habitat requirements. The study area uses the same boundaries as the Birds of Poole Harbour project.



Birds of Poole harbour recording area

In 2019 we trapped from May – September inclusive, setting 3 Mercury Vapour (MV's) traps and one 'actinic' (ultra-violet). We trapped at the top of the hill at the BoPH bird ringing site; an area of scrub surrounded by agricultural fields, which in 2018 was kept open by Ollie Slessor, the bird-ringer, by strimming vegetation. However, ringing ceased in 2019 and brambles began to encroach over the paths. There was also the issue of the chain ferry being out of commission for some months which made regular trapping unviable.

The site is a rich mosaic of hedgerow and scrubland and attracts resident and migratory birds and, not surprisingly, has a rich and varied moth fauna. Other wildlife is well represented on the site which has few human visitors.

There are no obvious sources of water near the site and the moth fauna reflects this with a lack of wetland species, making the overall richness all the more remarkable. A number of species do appear to have been drawn from Studland, both Little Sea and the heaths. A few migrant moths were encountered.

NOTABLE SPECIES FOUND ON BALLARD DOWN (15 Species)

Certain species are designated for their rarity. The designations are Nationally Scarce A or Notable A (Na) (recorded in 16-30 10km squares since 1980), Nationally Scarce B or Notable B (Nb) (recorded from 31-100 10km squares since 1980) and Red Data Book (RDB) (recorded from fewer than 15km squares in Britain). Micro-moths are in italics in Latin and macro moths use the common English name.

Species	Status	Year recorded
Crambus silvella	RDB	2018
Cnephasia conspersana*	Nb	2018
Dolicharthria punctalis	Nb	2018
Evergestis limbata	Nb	2018
Festoon	Nb	2019
Glyphipterix schoenicolella*	Na	2018
Horse Chestnut	Nb	2018
Jersey Tiger	Nb	2018
Kent Black Arches	Nb	2018 & 2019
L-album Wainscot	Nb	2018 & 2019

Mathew's Wainscot (1) see	Nb	2019
Oncocera semirubella	Nb	2018
Pempelia genistella	Nb	2019
Platyedra subcinerea	Nb	2019
Scrobipalpa ocellatella*	Nb	2018

Species marked with an * have been verified by Dr Phil Sterling

SPECIES RECORDED AT BALLARD DOWN THAT HAVE NOT BEEN RECORDED BY MOPH ELSEWHERE (51 SPECIES):

It is worth noting that the status given here is the 'national' status. The local status can be markedly different, sometimes dependant on available habitat or other factors. Where identification was difficult based on external features alone, or the moth species was listed as Grade 3, 4 or G, examination of genitalia may have been required, in which case, the moth was sent to Dr Phil Sterling to identify. In some cases, a photograph is sufficient and may have been sent to the Living Record verifier. (1) At the time of writing, we are still waiting on verification of Mathew's Wainscot, a Nb species.

It is significant that so many species have been recorded on Ballard down and not elsewhere. This may attest to the habitat type, as many of our other sites are heathland, woodland or wetland. This site sits on top of a hill on chalk, surrounded by agricultural fields, sheltered by an area of scrub with little disturbance. Overlooking the coast, the site also attracts migrants.

Species	National Status*	Verified by:	Year found	No. of individuals found on no. of occasions
Acleris cristana	Common		2018	1/1
Acleris sparsana	Common		2018	1/1
Acrobasis advenella (now Trachycera advenella)	Common		2018	4/1
Aethes rubigana	Common		2018	1/1
Agonopterix arenella	Common		2018	1/1
Alder Moth	Local		2018	2/2
Ancylis badiana	Common	Dr Phil Sterling	2018	1/1
Aproaerema	Local	Dr Phil Sterling	2018	1/1

Platyedra	Nb	I	2019	1/1
albicapitella				
Paraswammerdamia	Common	Dr Phil Sterling	2018	1/1
rosaecolana		2		-, -
Notocelia	Common	Dr Phil Sterling	2018	2/2
angustella	20001			-, -
Nephopterix	Local		2018	1/1
degeerella	Common		2010	±/ ±
Nemophora	Common		2018	1/1
aruncella	Common	Di i illi Stelling	2010	±/ ±
Micropteryx	Common	Dr Phil Sterling	2018 & 2019	1/1
Metzneria lappella	Local	Commination	2018 & 2019	2/2
iviatnew s wainscot	Nb	Awaiting confirmation	2019	1/1
forsterana Mathew's Wainscot	NIE	Awaitina	2010	1/1
Lozotaenia	Common		2019	1/1
sinuella	Co		2040	a /a
Homoeosoma	Common	Dr Phil Sterling	2018	1/1
Hedya nubiferana	Common	D . DI 'I C: 'I'	2018 & 2019	4/3
funebrana			2010 0 2010	. /2
Grapholita	Local	Dr Phil Sterling	2018	1/1
schoenicolella				
Glyphipterix	Na	Dr Phil Sterling	2018	1/1
Fern	Common		2018 & 2019	2/2
obumbratana				
Eucosma	Local		2018	1/1
Esperia sulphurella	Local		2018	1/1
Epinotia nisella	Common		2018	4/2
costipunctana				
Epiblema	Common	Dr Phil Sterling	2018 & 2019	2/2
marginana				
Endothenia	Common	Dr Phil Sterling	2018	5/4
Dusky Sallow	Common		2018	1/1
punctalis				
Dolicharthria	Nb		2018	1/1
conspersana				-
Cnephasia	Nb	Dr Phil Sterling	2018	1/1
Chocolate-tip	Local	5	2018	1/1
Caloptilia semifascia	Local	Dr Phil Sterling	2018	2/2
Blackneck	Local		2018 & 2019	21/4
spinosella		2		-, -
Argyresthia	Common	Dr Phil Sterling	2018	1/1
semifusca	Common	Di i illi Stelling	2010	±/ ±
Argyresthia dibistria	Common	Dr Phil Sterling	2018	1/1 1/1
Argyresthia albistria	Common		2018	1 /1

subcinerea				
Pretty Chalk Carpet	Common		2018 & 2019	14/8
Rosy Minor	Common	Dr Phil Sterling	2018	1/1
Scorched Carpet	Local		2018	1/1
Scrobipalpa ocellatella	Nb	Dr Phil Sterling	2018	1/1
Scythropia crataegella	Common		2018	1/1
Shark	Common		2018 & 2019	9/5
Slender Pug	Common		2019	1/1
Small Fan-foot	Common		2019	1/1
Syndemis musculana	Common		2018 & 2019	4/2
Tawny Shears	Common		2018	1/1
Teleiodes vulgella	Common	Dr Phil Sterling	2018 & 2019	4/2
Twin-spot Carpet	Common		2018	1/1
White Satin	Local		2018	1/1
Wood Carpet	Local		2018	1/1
Zeiraphera isertana	Common		2018	2/2

^{*}Status listed as per Dorset Moths Group website 2020.

A large proportion of the species listed above have been recorded once as a single individual. This proves presence and adds a species to our overall list, but does it show that in general abundance of these species is poor? Even where species are described as 'common' nationally, they may be at low density locally. A relatively few species were recorded again and again, such as Blackneck and Pretty Chalk Carpet, but were not seen on any other site in the harbour. In these cases, larval foodplant and habitat type is important. As the name suggests, Pretty Chalk Carpet inhabits chalk grassland, its larval foodplant is Traveller's Joy. Blackneck feeds on Tufted Vetch as larvae. Records listed in **bold** above refer to species found as individuals in 2019 alone.

SECTION 41 SPECIES

In addition, 27 other species are included on Section 41 (S41) of the 2006 Natural Environment and Rural Communities Act. These species, designated to be "of principal importance for the purpose of conserving biodiversity" are those that are most threatened, in greatest decline, or where the UK holds a significant proportion of the world's total population. These are included in the table below for completeness.

Common Name	Latin Name	
Autumnal Rustic	Eugnorisma glareosa	
Beaded Chestnut	Agrochola lychnidis	
Blood Vein	Timandra comae	
Buff Ermine	Spilosoma luteum	
Cinnabar	Tyria jacobaeae	
Crescent	Celaena leucostigma	
Dark-barred Twin-Spot Carpet	Xanthorhoe ferrugata	
Dusky Brocade	Apamea remissa	
Dusky Thorn	Ennomos fuscantaria	

Feathered Gothic	Tholera decimalis
Flounced Chestnut	Agrochola helvola
Galium Carpet	Epirrhoe galiata
Garden Tiger	Arctia caja
Hedge Rustic	Tholera cespitis
Knot Grass	Acronicta rumicis
Mottled Rustic	Caradrina morpheus
Mullein Wave	Scopula marginepunctata
Oak Hook-tip	Watsonalla binaria
Pretty Chalk Carpet	Melanthia procellata
Rosy Rustic	Hydraecia micacea
Sallow	Xanthia icteritia
September Thorn	Ennomos erosaria
Shoulder-striped Wainscot	Mythimna comma
Small Emerald	Hemistola chrysoprasaria
Small Square-spot	Diarsia rubi
White Ermine	Spilosoma lubricipeda
White-line Dart	Euxoa tritici

SPECIES ACCOUNTS - Highlights

Acleris cristana – This unmistakeable, yet highly variable Tortrix is uncommon locally and is the only record for MoPH. The astonishing photo below shows the diagnostic scale tufts in the middle of the wing. This species feeds on blackthorn and hawthorns which are abundant at Ballard.



Photo credit: © Paul Harris
Dorset Moths
http://www.dorsetmothgro
up.info/portal/p/Picture/s/1
054+Acleris+cristana+06

Agonopterix arenella – Although common nationally and locally, this is the only MoPH record. This species feeds on thistles, knapweeds and burdock.



Alder Moth – Local and thinly distributed, this distinctive species feeds on a variety of broadleaved trees. It has only been found by the project on Ballard Down.

Blackneck – Feeding on Tufted Vetch as a larva, this local species seems to be expanding its range. Found by the project in both 2018 and 2019, the Blackneck appears to be quite locally common with 21 individuals found on four occasions.



Aspilapteryx tringipinella – Found on only Arne Moors and Ballard Down, this distinctive *Gracillariidae* seems to be locally abundant with 51 individuals found on 9 occasions.

Chocolate-tip – Feeding on poplars and willows as larva, this nationally local species has only been recorded at Ballard on one occasion and on no other sites.



Clifden Nonpareil – This large, unmistakeable migrant is a sought-after 'tick' for moth twitchers. The individual shown here is clearly a migrant due to the condition of its wings. However, individuals found at Carey Estate were in better condition and it's possible there are resident populations.

Convolvulus Hawk – The large migrant, Convolvulus Hawk feeds on various bindweeds and is an annual visitor to Southern Britain. Found by MoPH on Ballard, Holton Lee and a garden in Hamworthy.





Crambus silvella – A RDB species has been found on four sites in Poole Harbour, but only on one occasion on Ballard. Feeding on sedges in boggy heathland and mires, it is perhaps surprising that one was found on Ballard at all.

Evergestis limbata – An attractive *Crambid* of Nb status. Feeding on Garlic Mustard/ Hedge Mustard, this species has been found by MoPH on three sites in the Harbour.

Fern – Although nationally common, this species is uncommon and thinly distributed in Dorset. Feeding as larvae on clematis/ Traveller's Joy, MoPH have recorded this species only twice and only on Ballard.

Festoon – This small Nb macro moth feeds on oaks and beech as a larva, but does not feed as an adult. MoPH have caught this moth on six sites in the Harbour, but only once on Ballard.

Nephopterix angustella –

This very distinctive 'local' micro has only been found by MoPH on one occasion at Ballard Down. Feeding on Spindle as larvae. The raised scales on the wing are diagnostic.



Pempelia genistella – Feeding on gorse, this Nb moth is encountered fairly frequently in Dorset, with MoPH recording it on 11 sites. It has only been recorded once on Ballard.



Pretty Chalk Carpet – As the name suggests this species prefers chalk grassland and feeds on Traveller's Joy. MoPH have recorded 14 individuals on 8 occasions. It has not been recorded by MoPH elsewhere in the Harbour.

Acknowledgements:

Thanks to owners; National Trust and tenant farmer for access. For Birds of Poole Harbour and Ollie Slessor for vegetation clearance and involvement in bird ringing. Thanks to Karl Clennell, Hannah Fry and Chilali Gizzy-Neither for help in the field. Dr Phil Sterling and Living Record team for verifications. Dorset Moths for technical data on species. All photographs were taken by Abby Gibbs unless otherwise stated.

Appendix 1: Full Species List of 363 Moths (2018 & 2019)

Species	Times recorded	Total number seen
Acleris cristana	1	1
Acleris laterana	5	8
Acleris sparsana	1	1
Acleris variegana	3	6
Acrobasis advenella	1	4
Adaina microdactyla	1	4
Aethes rubigana	1	1
Agapeta hamana	8	29
Agnopterix arenella	1	1
Agriphila inquinatella	1	1
Agriphila straminella	4	27
Agriphila tristella	5	13
Alder Moth	2	2
Anania crocealis	4	4
Anania lancealis	2	5
Ancylis achatana	2	14
Ancylis badiana*	1	1
Angle Shades	9	13
Annulet	1	1
Aphomia sociella	1	1
Apotomis capreana	1	2
Aproaerema anthyllidella*	1	1
Archer's Dart	1	1
Archips podana	7	27
Argyresthia albistria	1	1
Argyresthia semifusca*	1	1
Argyresthia spinosella*	1	1
Aspilapteryx tringipinella	9	51
Autumnal Rustic	1	1
Bactra lancealana	4	11
Barred Red	1	1

Barred Sallow	4	10
Barred Straw	5	26
Beaded Chestnut	5	60
Beautiful Hook-tip	1	1
Beautiful Yellow Underwing	1	1
Black Arches	1	1
Black Rustic	6	43
Blackneck	4	21
Blastobasis adustella	5	15
Blastobasis lacticolella	1	2
Blood-vein	7	8
Blue-bordered Carpet	1	1
Bordered Beauty	1	1
Bordered Sallow	1	1
Brick	2	2
Bright-line Brown-eye	12	27
Brimstone	14	32
Brindled Pug	2	3
Broad-bordered Yellow Underwing	8	19
Broken-barred Carpet	1	2
Brown China-mark	1	1
Brown Silver-line	1	2
Brown-tail	4	9
Brussels Lace	3	4
Buff Arches	4	20
Buff Ermine	7	33
Buff Footman	2	6
Burnished Brass	2	2
Cabbage Moth	1	1
Caloptilia populetorum	1	1
Caloptilia semifascia*	2	2
Campion	1	1
Canary-shouldered Thorn	2	2
Carcina quercana	3	3
Catoptria pinella	1	1
Celypha lacunana	15	75
Celypha striana	4	73 4
Chestnut	1	1
Chinese Character	9	18
Chocolate-tip	1	1
Chrysosteuchia culmella	9	138
Cinnabar	1	2
Clay	5	24
Clepsis consimilana*	1	1
Clepsis spectrana*	2	1
Clifden Nonpareil	1	1

Cloaked Minor	2	3
Clouded Border	7	14
Clouded Brindle	2	4
Clouded Silver	3	7
Cnephasia conspersana*	1	1
Cochylimorpha straminea	2	2
Cochylis atricapitana	6	7
Cochylis hybridella*	1	1
Cochylis molliculana*	2	2
Coleophora spp.	3	5
Common Carpet	17	42
Common Emerald	1	1
Common Footman	4	10
Common Lutestring	1	1
Common Marbled Carpet	6	6
Common Pug	2	6
Common Quaker	1	1
Common Rustic Agg.	9	84
Common Swift	7	63
Common Wainscot	23	634
Common White Wave	2	2
Convolvulus Hawk	2	3
Copper Underwing	1	1
Coptotriche marginea	7	18
Coronet	2	5
Crambus perlella	5	61
Crambus silvella	1	1
Crassa unitella	1	1
Crescent	2	3
Cydia splendana	2	3
Cydia ulicetana*	1	1
Dark Arches	10	542
Dark Marbled Carpet	1	1
Dark Spectacle	4	4
Dark Sword-grass	7	13
Dark-barred Twin-spot Carpet	2	5
Delicate	9	17
Diamond-back	15	56
Dingy Footman	3	54
Dioryctria simplicella	1	1
Dog's Tooth	1	1
Dolicharthria punctalis	1	1
Double-striped Pug	7	11
Drinker	4	9
Dun-bar	3	4
Dusky Brocade	1	2
2 33, 5.00000	-	_

Dusky Sallow	1	1
Dusky Thorn	3	4
Ear Spp.	1	1
Early Thorn	2	3
Elachista argentella	5	18
Elachista atricomella	7	13
Elephant Hawk	8	26
Emmelina monodactyla	1	1
Endothenia marginana	4	5
Endotricha flammealis	2	2
Endrosis sarcitrella	1	1
Epiblema costipunctana*	2	2
Epinotia bilunana	1	1
Epinotia nisella	2	4
Epiphyas postvittana	13	52
Esperia sulphurella	1	1
Eucosma campolilana	5	10
Eucosma cana	2	2
Eucosma obumbratana	1	1
Eudonia angustea	3	3
Eudonia lacustrata	3	13
Eudonia mercurella	2	9
Eudonia pallida	13	22
Eupoecilia angustana	7	14
Evergestis limbata	1	1
Eyed Hawk	2	2
Feathered Gothic	2	2
Feathered Ranunculus	3	6
Fern	2	2
Festoon	1	1
Flame	4	22
Flame Shoulder	13	46
Flounced Chestnut	1	1
Flounced Rustic	4	6
Fox Moth	1	2
Frosted Orange	3	4
Galium Carpet	3	3
Garden Carpet	2	2
Garden Tiger	5	13
Ghost	1	1
Glyphipterix schoenicolella*	1	1
Glyphipteryx simpliciella	1	1
Glyphipteryx thrasonella*	1	1
Grass Emerald	1	1
Green Carpet	10	62
Grey Arches	4	6

Grey Dagger	1	1
Grey Pine Carpet	2	2
Heart and Club	2	3
Heart and Dart	16	770
Hebrew Character	3	3
Hedge Rustic	1	2
Hedya nubiferana	3	4
Hedya pruniana*	5	6
Helcystogramma rufescens	2	3
Hoffmanophila pseudospratella	1	1
Homoeosoma sinuella*	1	1
Horse Chestnut	1	1
Hypsopygia costalis	1	1
Ingrailed Clay	7	26
Jersey Tiger	4	4
July Highflyer	2	2
Kent Black Arches	5	16
Knot Grass	5	8
	3	29
Lackey L-album Wainscot	3 10	29
	_	
Large Yellow Underwing	23	3,868
Lathronympha strigana*	4	4
Least Black Arches	3	4
Least Yellow Underwing	3	3
Lesser Broad-bordered Yellow	4	6
Underwing	•	
Lesser Yellow Underwing	7	11
Light Arches	5	24
Light Brocade	2	2
Light Emerald	5	6
Lime-speck Pug	1	1
Lobesia abscisana	2	3
Lobster	1	1
Lozotaenia forsterana	1	1
Lunar Underwing	6	37
Lunar-spotted Pinion	1	1
Magpie	1	2
Marbled Minor	4	10
Marbled White Spot	3	6
Mathew's Wainscot	1	1
May Highflyer	2	2
Merveille du Jour	1	1
Metzneria lappella	2	2
Micropteryx aruncella*	1	1
Middle-barred Minor	5	49
Miller	1	1

Minor agg.	5	67
Mirificama mulinella	1	1
Monochroa cytisella	1	1
Monopis laevigella	1	3
Monopis weaverella	6	11
Mother of Pearl	7	34
Mottled Beauty	1	1
Mottled Pug	1	2
Mottled Rustic	5	5
Mullein Wave	1	2
Muslin	1	1
Myelois circumvoluta	3	3
Narrow-winged Pug	1	2
Nematapogon swammerdamella	1	1
Nemophora degeerella	1	1
Nephopterix angustella	1	1
Nomophila noctuella	4	10
Notocelia rosaecolana*	2	2
Notocelia trimaculana	2	14
Notocelia uddmanniana	7	18
Nutmeg	6	13
Nut-tree Tussock	2	3
Oak Eggar	1	1
Oak Hook-tip	3	3
Oncocera semirubella	1	1
Orange Footman	1	1
Orange Swift	5	20
Ostrinia nubilalis	2	7
Pale Mottled Willow	1	1
Pale Pinion	1	1
Pale Tussock	2	3
Pandemis cerasana	8	21
Paraswammerdamia albicapitella*	1	1
Peach Blossom	1	1
Peacock	1	1
Pearly Underwing	1	2
Pebble Prominent	2	2
Pempelia genistella	1	1
Pempelia palumbella	2	3
Phyllonorycter messaniella	1	2
Pine Carpet	1	1
Pine Hawk	3	4
Platyedra subcinerea	1	1
Poplar Hawk	7	11
Pretty Chalk Carpet	8	14
Privet Hawk	8	20

Pseudagyratoza conwagana	2	2
Pseudoswammerdamia combinella	2	2
Ptocheuusa paupella	1	1
Purple Bar	5	10
Pyrausta aurata	1	1
Pyrausta despicata	2	3
Pyrausta purpuralis	1	1
Red Twin-spot Carpet	7	13
Reddish Light Arches	1	1
Red-green Carpet	1	1
Red-line Quaker	1	1
Riband Wave	6	21
Rivulet	1	1
Rosy Footman	1	1
Rosy Rustic	5	17
Ruby Tiger	4	10
Rufous Minor	1	6
Rustic / Uncertain	8	70
Sallow	1	1
Sallow Kitten	2	2
Satellite	1	1
Satin Wave	1	1
Scalloped Oak	5	15
Scarce Footman	1	1
Scarlet Tiger	3	3
Scoparia ambigualis	1	3
Scoparia pyralella	3	14
Scorched Carpet	1	1
Scorched Wing	1	1
Scrobipalpa ocellatella*	1	1
Scythropia crataegella	1	1
September Thorn	1	1
Setaceous Hebrew Character	20	286
Shaded Pug	1	1
Shark	5	9
Sharp-angled Peacock	6	7
Shears	2	2
Short-cloaked Moth	5	7
Shoulder-striped Wainscot	2	5
Shuttle-shaped Dart	4	4
Silky Wainscot	1	2
Silver Y	13	111
Silver-ground Carpet	3	3
Single-dotted Wave	5	9
Slender Brindle	1	1
Slender Pug	1	1

C II DI I :		6
Small Blood-vein	6	6
Small Clouded Brindle	1	1
Small Dotted Buff	1	1
Small Elephant Hawk	7	17
Small Emerald	1	3
Small Fan-foot	1	1
Small Fan-footed Wave	5	8
Small Magpie	2	2
Small Purple-barred	1	1
Small Seraphim	4	6
Small Square-spot	5	8
Small Wainscot	2	3
Small Waved Umber	3	4
Smoky Wainscot	6	61
Snout	11	17
Spectacle	9	13
Spilonota ocellana*	1	1
Spruce Carpet	1	1
Square-spot Rustic	9	85
Straw Dot	9	16
Straw Underwing	2	3
Swallow-tailed	4	12
Swammerdamia pyrella	1	1
Synaphe punctalis	2	11
Syncopacma larseniella	1	1
Syndemis musculana	2	4
Tachystola acroxantha	1	1
Tawny Marbled Minor	1	4
Tawny Shears	1	1
Teleiodes vulgella*	2	4
Tinea simfulvella	1	1
Tinea trinotella	1	1
Treble Brown Spot	3	4
Treble Lines	6	22
True Lover's Knot	3	6
Turnip	5	11
Twin-spot Carpet	1	1
Udea ferrugalis	5	7
Udea fulvalis	2	2
Udea lutealis	1	1
Udea olivalis	1	1
Udea prunalis	1	1
Vestal	1	1
Vine's Rustic	10	131
V-Pug	3	3
White Ermine	6	19
Ellinie	3	1.7

White Satin	1	1
White-line Dart	1	1
White-point	11	33
Willow Beauty	11	29
Wood Carpet	1	1
Wormwood Pug	1	1
Yellow Shell	2	2
Yellow-tail	1	2
Yponomeuta evanymella	1	1
Ypsolopha scabrella	3	3
Zeiraphera isertana	2	2