

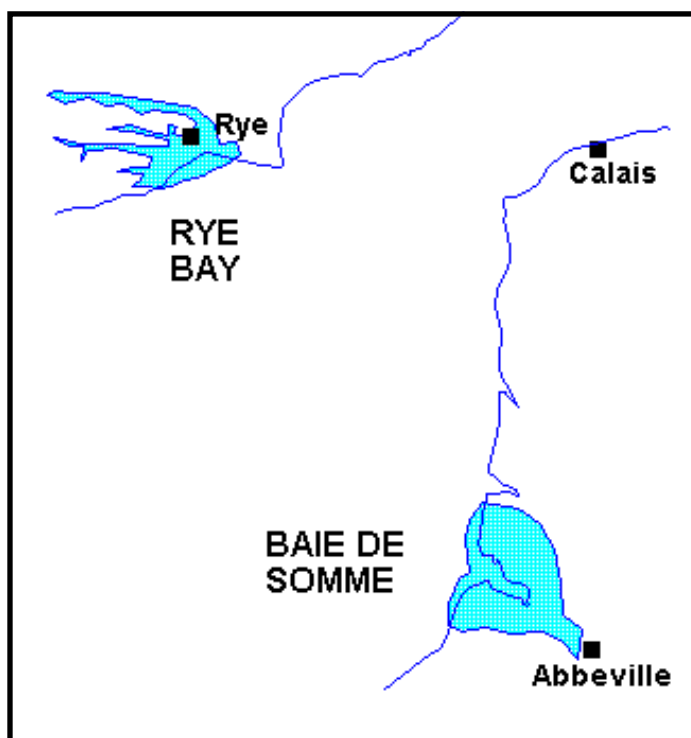
THE LEPIDOPTERA OF RYE BAY

A SPECIALIST REPORT OF THE INTERREG II PROJECT

TWO BAYS, ONE ENVIRONMENT
a shared biodiversity with a common focus



THIS PROJECT IS BEING PART-FINANCED BY
THE EUROPEAN COMMUNITY
European Regional Development Fund



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APRIL 2000

The Lepidoptera of Rye Bay

This specialist report contains a provisional list of the 836 butterflies and moths that have occurred at Rye Bay since the 1860's, and 22 individual species statements for the rarest of the modern era.

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April 2000

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Introduction to the Two Bays Project

Two Bays, One Environment - a shared biodiversity with a common focus, is a project part-financed by the European Community European Regional Development Fund through INTERREG II in the category of 'Conservation and regeneration of the region's heritage (conservation and promotion of natural parks and the countryside).' The English lead partner is East Sussex County Council (ESCC) and the French lead partner is the Syndicat Mixte pour l'Aménagement de la Cote Picarde (SMACOPI).

The project encompasses areas in England and France, adjacent to, but separated by the English Channel / La Manche. The Baie de Somme (50°09'N 1°27'E) in Picardy, France, lies 90 km to the southeast of Rye Bay (50°56'N 0°45'E) in East Sussex, England (see map on front cover). Both of these bays have a wetland character with similar habitats and species (Yates and Triplet, 1998).

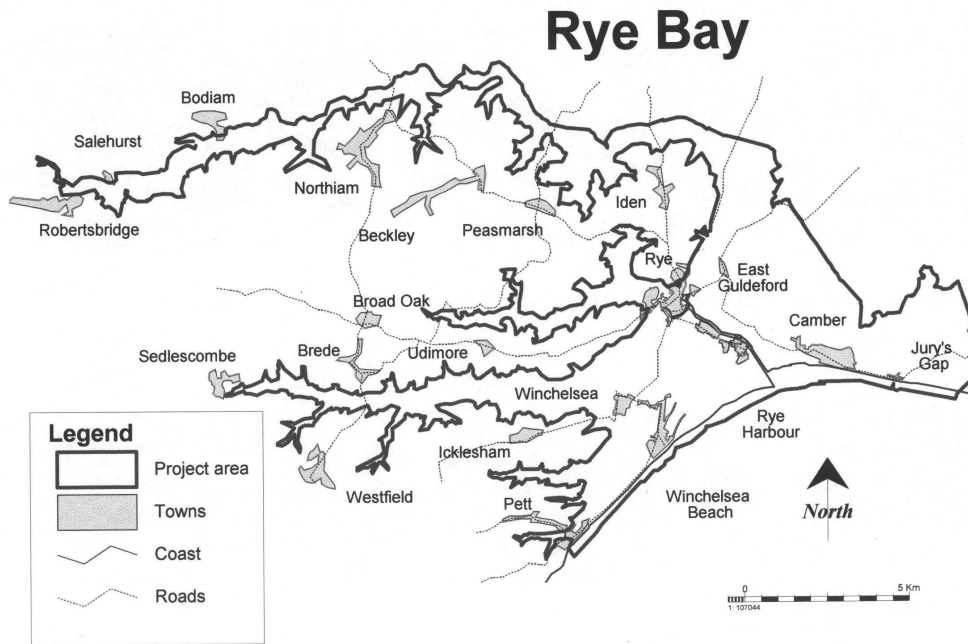
The project has four aims and this specialist report on Lepidoptera, the butterflies and moths, addresses aspects of each one:

1. **Study and record the wildlife** – this report summarises our current knowledge about the rarest of species and provides a basis for further study.
2. **Identify the main habitats present and how they can be enhanced** – this report highlights (where known) the specific habitat requirements of the rare species, which will facilitate suitable habitat management by site managers.
3. **Encourage farmers and landowners to manage areas for wildlife** – this report identifies the species that require careful consideration when considering habitat management. It is these species that site managers can be most proud of.
4. **Promote understanding of the wildlife importance of the Two Bays** – the rare species in this report can be a route to the wider appreciation of the special character of the Two Bays.

Rye Bay

The Rye Bay area, covering 91 km², corresponds to the East Sussex section of the Romney Marshes Natural Area. This area includes the valleys of the Rother, Tillingham and Brede, and the levels of Pett, East Guldeford and Broomhill. The project boundaries are the low water line along the shore, the ten metre contour line and the county boundary with Kent (see map below). Within Rye Bay there are few towns, villages and other settlements and the land use is dominated by agriculture, although in the summer there is increased pressure from tourism.

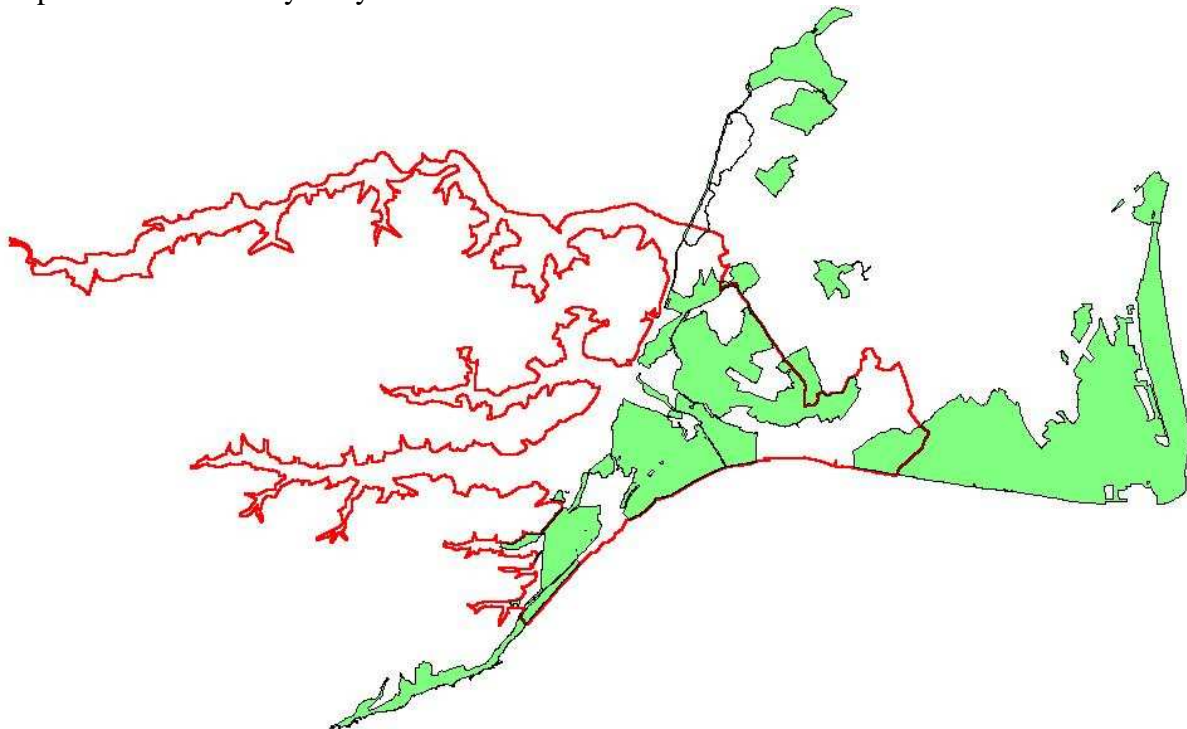
Fig 1. Rye Bay Location Map



Within Rye Bay there are large areas with wildlife designations:

- Eight Sites of Special Scientific Interest (SSSI) totalling 28.4 km² in the Rye Bay area (see map below); all of - Rye Harbour SSSI, Pett Level SSSI, Camber and Rother Saltings SSSI, Winchelsea Cutting and Houghton Green Cliff SSSI, and part of - Walland Marsh SSSI, Dungeness SSSI and Hastings Cliff - Pett Beach SSSI.

Map 2. The SSSIs of Rye Bay



- A Special Protection Area (SPA): Dungeness to Pett Level site 1209A (part in Rye Bay)
- A candidate Ramsar wetland site: Dungeness to Pett Level site 1209A (part in Rye Bay)
- A candidate Special Area of Conservation (SAC): Dungeness (part in Rye Bay)

- An Important Bird Area (IBA): Dungeness to Pett Level site 204 (part in Rye Bay)
- Six Sites of Nature Conservation Importance (SNCI): Brede Valley, Powdermill Reservoir, Mountsfield, Camber Sands, Dogs Hill Road, Pett Levels all designated in 1997.

And there are areas managed with wildlife in mind, including:

- A Local Nature Reserve: Rye Harbour established in 1970.
- Two Sussex Wildlife Trust Reserves: Pett Pools and Castle Water established in 1992.
- A Wetland Trust Nature Reserve: Pannel Valley established in 1986.
- Three farms owned by the National Trust: Wickham Manor, Crutches Farm and Marsham Farm.
- Numerous private landowners in the Countryside Stewardship Scheme administered by the Ministry of Agriculture Fisheries and Food (MAFF).

Rye Bay has all of these designations and specially managed wildlife sites because of the variety and rarity of the habitats within it. These habitats include:

- **Intertidal** areas, which have important hidden wildlife as well as the more obvious flocks of gulls and wading birds.
- **Shingle** is the most important habitat around Rye because of its global rarity. For hundreds of years the power of the sea has formed great shingle ridges and still modifies the coast every day, sometimes dramatically. There are numerous rare and endangered plants and animals, which live on the new **bare shingle** such as the Sea Pea, the Little Tern and the flea beetle *Dibolia cynoglossi*. Older **vegetated shingle ridges** further inland are also very special habitats with special communities of plants and animals. The vegetation of these areas is maintained by sympathetic grazing.
- **Saltmarsh** is a habitat that was once extensive, but is now squeezed along the River Rother from Scots Float to the River Mouth. It has a unique character and is loved by artists, especially in the autumn when plants turn red and brown. Saltmarsh is home to the scarce Sea Heath and some breeding birds like Yellow Wagtail and Redshank.
- **Sand dunes** are areas that attract people, especially during sunny weather. They are also important for some plants such as Sea Spurge and many different solitary bees and wasps.
- **Grassland** in Rye Bay is no longer the traditional 'wet grassland' that it used to be. Efficient land drainage has created drier ground by managing a network of ditches. Botanical interest is mainly reduced to the ditches and more sandy areas.
- **Wetland** habitats are of great interest in Rye Bay, especially for bird life. For example, up to 600 Whimbrel roost at night on the Nature Reserve and feed in the grassland of Rye Bay during the day. Reedbeds form a special habitat for species such as Bittern and Reed Warbler. An important aspect of the wetlands is the gradient of salinity from salt water through to freshwater.
- **Open Water** has been created by the extraction of shingle, sand and clay. These areas of open water, like Pett Pools, Castle Water and Northpoint Pit are habitat for rare species such as Smew, Medicinal Leech and Saltmarsh Goosefoot.

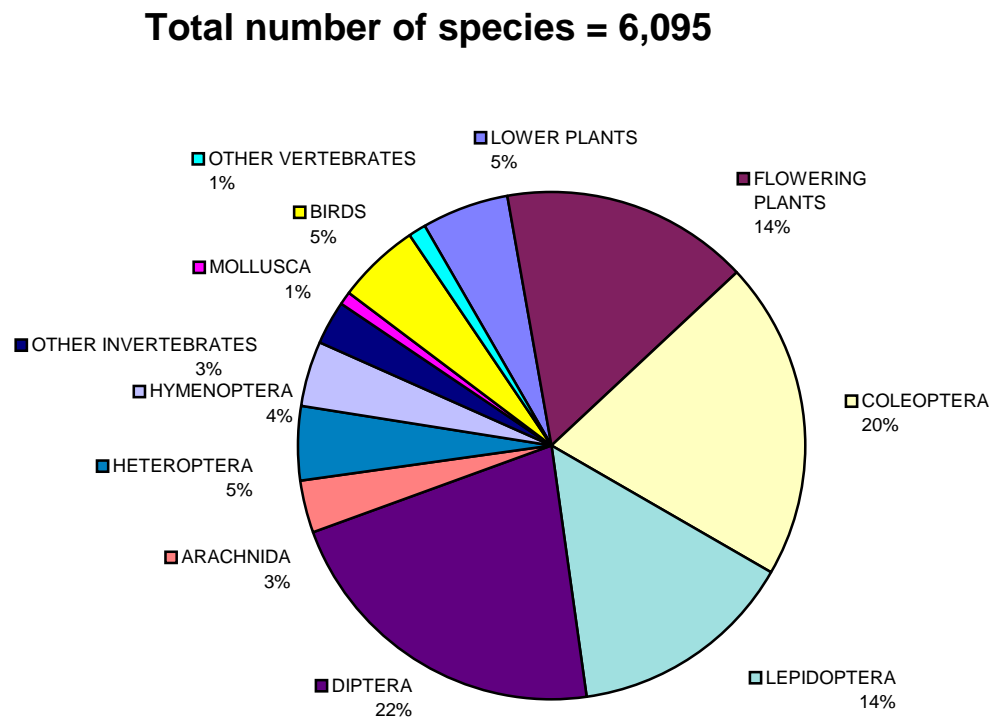
- **Rivers** are the main arteries of the river valleys, providing the main drainage of the area. To improve this function they have been greatly modified and are heavily managed - the sea is excluded and the levels maintained.
- The old cliff line, such as at Cadborough Cliff has important micro-habitats such as **rock exposures** and **freshwater seepages**.

Rye Bay Wildlife

Following from the variety of habitats in Rye Bay, there is a great diversity of species, including a great many rarities – Rye Bay has a great biodiversity. Many species that are declining nationally still retain a stronghold in this area. For example, the good populations of several farmland bird species, the Water Vole, the Medicinal Leech, the Marsh-mallow plant and moth, plus many rare species of Lepidoptera – the butterflies and moths.

The Two Bays, One Environment project has brought together many of the existing wildlife records of the Rye Bay area and encouraged additional recording. The total number of species recorded has increased from 4,617 in August 1998 when the first report was produced (Yates and Triplet 1998) to 6,095 in January 2000. The number of different Lepidoptera recorded has, over the same period, increased from 757 to 836, representing 14% of recorded species – the third largest taxon, behind Diptera and Coleoptera. Moths are one of the most studied taxa because of the regular use of light traps.

Fig. 3. Rye Bay Species



The number of records, species and their British status (according to Recorder 3.3) is summarised below;

Table 1: The British Status of the Species of Rye Bay.

	Common	Local	Notable	Rare	Total Species	Records
Lepidoptera	517	215	76	28	836	66,864
All Species	4,246	1,139	475	235	6,095	147,777

Of the 6,095 species and 836 Lepidoptera recorded so far, the most important are those classed as rare. The rare category includes 28 Lepidoptera species considered as Red Data Book species (RDB – see page 61 for definition), representing the species that are truly rare or endangered in Britain. This specialist report contains 21 Species Statements of RDB and one notable Lepidoptera. It is hoped that a series of these reports will be produced, so that they can together form an account of the species groups in Rye Bay and produce an important information resource.

The wildlife database is maintained on the computer database RECORDER and species records, distribution maps or summaries are available on request from the Two Bays, One Environment project at the address on the cover page.

See also the web site www.yates.clara.net



Cynaedia dentalis, a RDB moth that develops on Viper's Bugloss, *Echium vulgare*

Sources of Information

This particular report is founded on a collation of all known records made at Rye Bay since the 1860's and is an expansion of the basic information and lepidopterological records contained within "A Revised History of the Butterflies and Moths of Sussex" published in 1999, where all references are listed, and is subject to the same copyright statement. The information within has been exclusively drawn from Sussex experience unless specified to the contrary. Data emanating from counties other than our own has been obtained from two excellent reference books - B. Skinner's "Colour Identification Guide to Moths of the British

Isles", first published in 1984, and J. Porter's "Caterpillars of the British Isles" published in 1997 - to which all due acknowledgement is made.

The number of valid butterfly and moth records in any locality during any era is proportional to the number of experienced active entomologists who impart their knowledge. Nothing would be known without their work.

The district's earliest known records of Lepidoptera came from Guestling's Victorian rector, E. N. Bloomfield, when he started scouring the whole of the Hastings district for natural history specimens during the mid 1860's. He published a major list of species in 1878, price 1/6d (7.5p), entitled "The Natural History of Hastings and St. Leonards and the vicinity". This fine collation listed 44 species of butterfly and 442 macro-moths, and more were added in three later supplements. At least a dozen amateur and itinerant paid collectors also ranged the Hastings' Natural History Society's area of operations up until about the beginning of the 20th century. After the era had ended, Bloomfield and his local informants had listed 45 species of butterfly and 486 macro-moths from the Hastings district, of which just two were errors.

While some moth collecting was performed at Rye Harbour at the turn of the century by E. C. Raven, only a few amateurs then intermittently carried on the tradition until M. J. Mowbray collated records in detail for the same society from about 1944 until the late 1980's. From 1964 to 1988 he published the most important events amongst the butterflies and moths annually in the "Hastings and East Sussex Naturalist". But his foremost published work concerned "A Survey of the Lepidoptera of the Hastings district", which ran from 1951 to 1957 inclusive in the same publication. Mowbray reported on 54 butterflies, two of which can be deleted. Similarly he noted 562 macro-moths, four of which were incorrect. His work provides a permanent and easily available source of reference to the status of all of the macro-lepidoptera found in the area at the middle of the 20th century. Mowbray's personal card-file system resulted in the most important single private source of detailed local historical information ever compiled on this insect group from the far east of Sussex.

Little else substantive was achieved until catches from a then new-fangled mercury vapour-sourced moth-trap were identified by M. F. Tweedie during the 1960's and 1970's, at Houghton Green, Powdermill Wood, Rye Harbour, and Camber Sands. Tweedie's sometimes astonishing results then attracted a few more indigenous explorers during the 1980's and 1990's. Since the mid 1990's intensive nightly moth-trapping has been carried out at Rye Harbour by D. J. Funnell, P. Troake, P. Philpot and others. Recent results have emphasised the importance of this site.

The Leading Entomological Habitats

Aside from micro-organisms, insects constitute the most numerous inhabitants of Rye Bay. Butterflies are not well represented in the area - but it's typifying moths are unsurpassed.

Rye boasts a number of totally different habitats, each supporting its own characteristic indigenous species. As a gross generalisation, with such a wide range of quality habitats, the coastline between Hastings and the Kent border is entomologically the most important in Sussex. For example, the sand-dunes at Camber and the nearby vegetated shingle beach are entomologically amongst the most important in England.

In addition to native insects, a major moth migration route from the continent also crosses the southern coast at about this point and, given a sympathetic habitat, presents such gamblers

with the opportunity to form pioneering colonies. Rye is gaining a spectacular reputation for such new and unique footholds, both from a county-wide and all-England standpoint. These exciting events with species such as the Scarce Black Arches, Jersey Tiger, and Plumed Fan-foot, have recently been intimately associated with the long-term increase in Britain's annual temperature. It is possible that more alien insects will colonise Rye Bay in the future - but it is pointed out that this will only take place so long as global warming continues and that, when a normal temperature regime eventually inevitably reasserts itself, it is almost certain that these novel inhabitants will then become extinct.

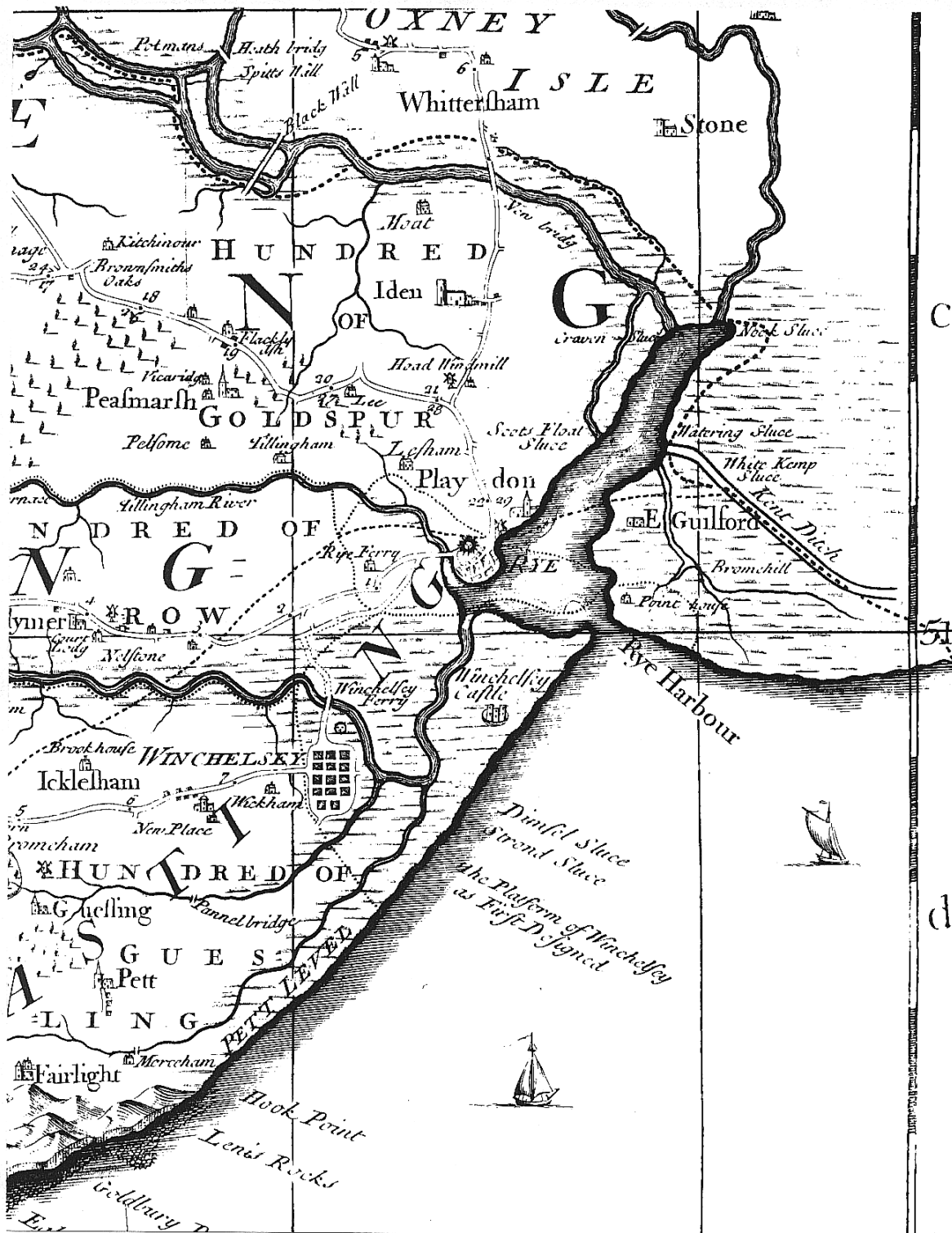
Although sometimes inexplicably neglected in Action Plans, it can be of considerable advantage if an historical perspective is sought out prior to the formation of conservation strategies for insects, as it often provides crucial clues in the hunt for effective tactics to enhance their future welfare. The most important elements are comparisons in time between county-wide territorial ambits, the density of distributions within those colonised areas, and the true cause of any alterations. However, while comparatively small areas such as Rye are subject to the same overriding macro influences, given the close association between differing highly localised species and habitat type and plant contents, in these circumstances the local environmental history of each site also has a considerable and direct bearing on its lepidopterous inhabitants. This is nowhere more true than at Rye Bay, so a summary of their histories follows.

Rye Bay in about the 1580's



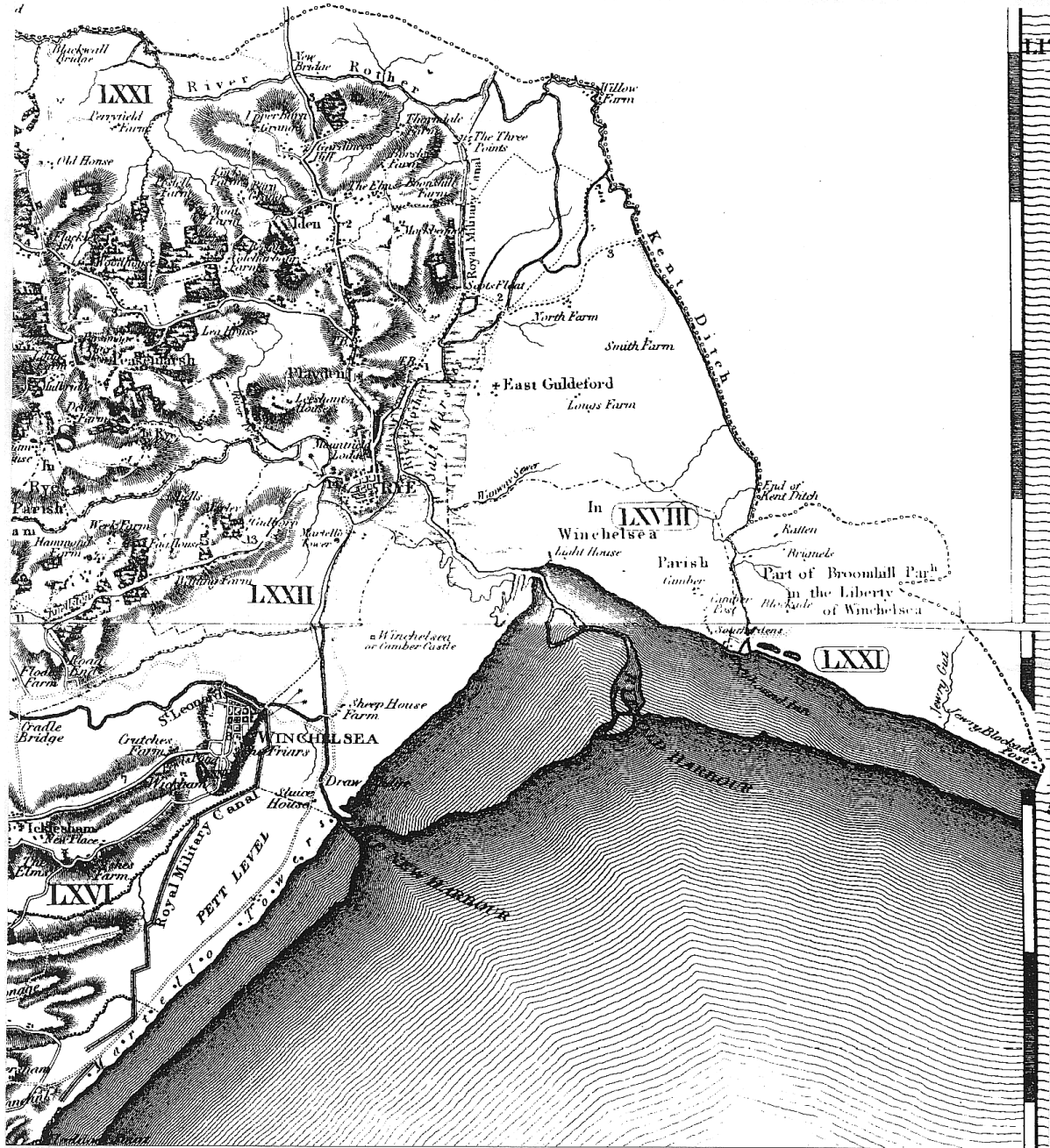
Source: A map drawn by J. Norden and published in 1595

Rye Bay in about the 1710's



Source: A map drawn by R. Budgeon and published in 1724

Rye Bay in about the 1810's



Source: A map drawn by C. Greenwood & J. Greenwood and published in 1825

The Sand-dunes at Camber

Much has been written and researched about the shoreline near Rye. The earliest mention of Camber seems to have been made during the 14th century, when the name signified a landlocked harbour. The original village is now underwater half a mile out to sea. The first report of a dune came in 1593 - it was named "Old Camber Head". These early sandhills seem to have been washed away by violent storms and exceptionally high tides during the 13th century. The present dunes probably first started to form after an outlet of the River Rother at Old Winchelsea became silted up during the 15th or early 16th century, although they were inconsequential as no map drawn prior to 1700 illustrates sandhills at Camber. These dunes have stretched for one and a half miles, and in places have been 45 feet high, for many years. Up until between the wars Camber was a beautiful, wild, and a comparatively unfrequented

place. The advent of huge quantities of modern holidaymakers, which now at times necessitates the closure of all incoming roads, then started to erode the dunes. The hills were then fenced off from the public. Yet within those confines, from the earliest of times, the locality has also been renowned for the changing face of its hillocks; in the long term, their position ebbed and flowed according to river flow, as Dungeness grew, and as storms dictated - sand from the foreshore being removed at the rate of 75 tons an hour during a gale. This impermanence, later on exacerbated by holidaymakers, prompted a number of attempts at stabilisation, including the insertion of wooden stakes, fences, and barriers, and the planting of grasses and perhaps shrubs. Several plant introductions were apparently made, including marram grass (*Ammophila arenaria* L.), sea buckthorn (*Hippophae rhamnoides* L.), and lyme grass (*Elymus arenarius* L.), two of which led to the addition of important moth species to the lepidopterous inhabitants of Rye Bay.

Apparently missing in early times, the introduction of marram to stabilise the dunes at Camber was first suggested in 1798. The exact timing of its arrival is not known but the grass must have been introduced within a quarter of a century, as it was being collected by botanists in 1820. By the end of the 19th century marram grass was abundant. But seemingly disappointed with the results of introducing marram, by the year of 1900 lyme grass had been brought in to bind the dunes. This was even less successful, as by the middle of the 20th century the plant was restricted to just one or two patches.

After the limited achievements gained by the planting of grasses, sea buckthorn came to the fore. It is not known whether this shrub is a naturalised introduction, a natural coloniser from the Kent coast, or a native to Sussex. Whatever, sea buckthorn was apparently absent from Camber at the middle of the 19th century, although it may be significant that the plant's introduction as a successful stabilising agent on to French dunes was pointed out at that time. Sea buckthorn was first recorded at Camber in 1875. During the early 1880's there was just a solitary patch of the buckthorn but by the end of the century this had expanded to a larger area situated opposite Rye Harbour. The shrub was so rare as to be thought extinct in 1914 but by the late 1930's it had recovered. This resulted in attempts by the golf club to eradicate the plant but representations were made by conservation-minded botanists and the shrub was protected. During the following years a great change took place. After a precarious existence lasting half a century, the shrub suddenly increased its distribution at Camber. In 1956 it was noticed that sea buckthorn was spreading at a great rate on the older dunes, although there was still only one patch near the Rother. Within a few years the inland hillocks were covered by the shrub, whilst seaward dunes were more loosely bound by marram and other grasses. Until its reclamation in 1970 as an extension to the golf course, the land in between used to be a saltmarsh.

The rise of sea buckthorn and the introduction of lyme grass have led to the inclusion of *Photedes elymi* Treit., *Semiothisa alternaria* Hubn., and *Eupithecia fraxinata* Crewe (Lyme Grass, Sharp-angled Peacock, and Ash Pug, respectively), amongst Camber's moth specialities. The area is an important and sometimes wonderful site for *Euproctis chrysorrhoea* L. (Brown-tail), although local residents are less than enthralled and larvae are much persecuted. Other worthy species include *Earias clorana* L., *Phibalapteryx virgata* Hufn., and in the east *Dicallomera fascelina* L. (Cream-bordered Green Pea, Oblique Striped, and Dark Tussock, respectively). All this makes Camber by far the best site for sand-loving lepidoptera in the county, and one of the most important in Great Britain.

The Vegetated Shingle Beach at Rye Harbour

The shingle beach to the immediate west of the mouth of the River Rother is now a Nature Reserve and SSSI, but up until about 1700 almost all was under the sea. After around a century had passed, two thirds of the area was dry, up to a line situated just north of Nook Beach. The district around Camber Castle was shingle, now grassed over. During the late 19th century a large golf-course was laid out to the north-west of the castle but this turned out to be only a temporary leisure-ground. Much of the district was flooded in 1931, after a breach in the sea defences near Winchelsea. Shingle was then extracted from the site, mainly during the 1930's and after the war from alongside the west pier. Still, by 1900 the ground was substantially as seen today, certainly since detailed mapping began in 1923, although continuing shingle accretion has taken place in the south-eastern corner due in part to the construction of the western breakwaters in 1926 and 1947.

Notable macro-moths regularly detected here include *Lasiocampa trifolii* D. & S., *Cossus cossus* L., *Hadena compta* D. & S., *Eilema pygmaeola* Doub., and *Photedes fluxa* Hubn. (Grass Eggar, Goat, Varied Coronet, Pigmy Footman, and Mere Wainscot, respectively), the area being especially notable for potentially colonising continental immigrants such as *Photedes extrema* Hubn. (Concolorous) and other even scarcer visitors. The beach is a veritable gold-mine for Pyralid and Plume enthusiasts, the most important native being *Pterophorus spilodactyla* Curt.. Recent colonisers from the European mainland include *Pechipogo plumigeralis* Hubn. and probably *Nola aerugula* Hubn. (Plumed Fan-foot and Scarce Black Arches, respectively), the Rye establishments perhaps being this country's only examples. Rye Harbour nature reserve is therefore certainly the county's foremost vegetated shingle beach, and one of the most important in Great Britain.

The Reed-beds at Pett Level

At one time part of Pett Level was a forest, as at unusually low tides a petrified wood of oak and hazel becomes exposed, but the Romans were the first to reclaim land from the sea at Romney Marsh. Up until at least the 8th century the Rother's main outlet was at the now lost village of Old Winchelsea but by 1570 it had become silted up and closed. In 1195 the area between Winchelsea Marsh and Cliff End was yet to be reclaimed. It was marshy land about a mile wide at its entrance, which flooded at high tide. Between 1292 and 1340 marshes were lost to the sea at Fairlight, Pett, Icklesham, Brede, and Salehurst, but much of the Rother Valley's wetlands reclaimed during the seventeenth and eighteenth centuries. The first known attempts at drainage of the alluvial areas at Rye took place in 1661. Later on the Royal Military Canal started to be constructed in 1804 as a defence against an invasion by Napoleon. But by 1900 only small areas of saltmarsh remained, between Rye and Camber, this finally disappearing upon the completion of drainage schemes in 1920. A regular pattern of dykes then stretched from east Winchelsea to the Rother and beyond, these enclosing many grazing sheep. For many years these wetlands, which lay below sea-level, were ineffectually protected from the sea by banks of shingle. In 1926, and in 1931, the sea broke through again and caused serious temporary flooding. Then, in 1940, almost the entire area of about 1,000 acres was deliberately inundated as a defence against another invasion, this time by Hitler. This was drained in February 1944 as the threat receded. A concrete wall was then constructed as a sea defence. Later on, gypsum from the Mountfield mines was spread over the lowest areas of land, including Pett Level, to rectify the damage caused by years of salt water. There were also periods when land excavations created standing water, which would have caused local fluctuations in water levels.

The latest draining seems to have taken place at Rye during the third quarter of the 20th century, but nowadays dykes still enclose grazing land and the artificial lakes that have been constructed for bird watchers since the war are also ringed with reeds and rushes. Pett Level is well known for its avian visitors but only some of the lepidopterological secrets of the area have been uncovered - few collectors visited the reed-beds until the middle of the 20th century, and even fewer recorders visit nowadays. It is known that *Senta flammea* Curt. and *Simyra albovenosa* Goeze (Flame Wainscot and Reed Dagger) are resident - but far more than this must await discovery amongst the reeds near Winchelsea. The reed-beds between Camber and Pett are amongst the most important in Sussex - and further research may well enhance this status to one of predominance.

Summary Of Recommended Action

Maintaining And Improving The Quantity Of Characteristic Lepidoptera In Each Habitat

Historically, Rye has been particularly prone to great natural and smaller man-made modifications to its most important local habitats. Moreover, a recent overview has shown that within the hundreds of butterflies and moths which have historically suffered from discontinuous empires in Sussex, local habitat-based conservation strategies produced by man are subordinate to the effects of assaults made by other biological organisms and, most of all, to the weather determined by the natural eddies of a global-sized climate system. It often goes unrealised that it is these macro-events that really determine the fate of our lepidoptera.

In descending order of priority, it is considered that the most urgent practical conservation action (the continuation or fresh undertaking of surveying and/or other field research) is currently needed for the Marsh Mallow, Plumed Fan-foot, Scarce Black Arches, *Pterophorus spilodactylus*, and the Goat moth. These priorities could alter as time passes, circumstances change, and knowledge increases.

Both pioneering research for new species and the continued numerical monitoring of the most important wildlife sites with mercury vapour light - such as the fresh exploration of under-worked areas such as Camber Sands, and renewed moth-trapping on the vegetated shingle beach at the Harbour - will add to our knowledge with regard to just what insects the area holds and which need practical conservation, and also yield warnings when particular insects commence a local decline. It is essential for the welfare of the moths that inhabit the Bay that monitoring continues across the area.

As a general principle, obviously, as almost every butterfly and moth larva feeds upon vegetable material, wherever possible an increase in plant life should be encouraged. Under severely restrictive conditions, the fate of lepidoptera characteristic of each habitat can be critically associated with that of the vegetation upon which its early stages feed. However, while a growth in the quantity of each typifying plant is a highly desirable aim on shingle beaches, as at Rye, multiplication will only offer lepidoptera the *potential* to expand. It is emphasised that such increases in vegetation can only be a dictating stimulant which ends in a significant and consistent numerical entomological expansion when the moth has the power to expand and where a shortage of foodplant has previously restrained it's status - and that is a very rare event in Sussex.

A Topographical Archive

It has been strongly advised since the mid 1990's that all of the county's leading localities for natural history be photographically surveyed with both still and video cameras, using suitable standard fixed points under the guidance of a global satellite positioner, to provide a crucial

but inexpensive hard-copy and digitised archive resource for comparative research by future conservationists of all natural history orders. This measure would now be particularly relevant so far as the Rye area is concerned, given its past and future significance within the natural history world. Two aerial photographic surveys have just been completed which include the district, one of which is already available from the Planning Department, Lewes District Council, Southover House, Southover Road, Lewes.

It is also recommended that aerial photographs of Rye taken during the 1940's be obtained for reference. Two different monochrome sets of Sussex exist, originally sourced by the Royal Air Force and the German Luftwaffe. Incomplete sequences of the first mentioned are held by Brighton University, Sussex University, and East Sussex County Council, and those photographs taken by German pilots at Washington State University in the U.S.A. Many dozens of different photographic picture postcards of Rye from the 1910's and 1920's are obtainable to the diligent long-term hunter, as are maps stretching back to 1575, and these would also be meaningful additions to Rye Bay's archive of information.

The Water Table

A proposal has been made to heighten the water table at Rye Harbour. A summary of the natural calamities and man-made events that have affected the past water table at Rye Bay has been included in the introduction to this report, under Pett Level. There is a long history of widespread drainage and occasional flooding that stretches back to at least Roman times. The past is therefore, to some extent, one of fluctuation - and the fresh suggestion that the water table should be raised at Rye Harbour Nature Reserve sits comfortably with this history. However, it is pointed out that, where and when there is no current deterioration in habitat quality, the *status quo* is an extraordinarily under-rated target for conservationists. A yield to temptation in attempting "improvements" to a habitat sometimes factually amounts to unwarranted and ultimately harmful interferences. While such direct management of entomologically important natural history sites by Sussex conservationists has a bad record for such damaging blunders, that at Rye Harbour has so far been exemplary. But the proposal to raise water levels underneath the shingle beach is highly disconcerting, and serious misgivings over the results of such a dramatic change are expressed here - although the effects could be minimised by a very gradual increase over many years.

The larval stages of almost all of Rye Bay's shingle-loving lepidoptera feed on vegetation that has adjusted to the current water table. There is every reason to believe that any sudden permanent radical heightening of this level would alter the environment so significantly that the quality and quantity of some of those plants such as sea aster (*Aster tripolium* L.), which typify the Nature Reserve, will seriously decline in the short term. Moreover, for example, if this were to degrade white horehound - the sole known foodplant of *Pterophorus spilodactylus* - the outcome would be serious.

It is readily recognised that Rye Harbour Nature Reserve is a difficult balance of conservation for the promotion of all aspects of nature and that the attenuation of water levels may well benefit some organisms - but even the most careful forethought by experts cannot accurately predict all of the ramifications of such a fundamental change. In short, there is a real danger that the aftermath of any sudden implementation of this idea could be a disaster for some of the more specialised and nationally-rare moth populations for which Rye Harbour is rightly famous. In any event, on no account should the water level be altered before a complete detailed photographic survey of the Nature Reserve is carried out, as the visual record will provide a crucial base line for monitoring the inevitable changes in vegetation.

Lepidoptera Species Statements

The Butterfly Species

Swallowtail *Papilio machaon* Linn. subsp. *gorganus* Fruh.

Description and Biology

A very large and unmistakable bright yellow and black butterfly, exhibiting "tails" on the hindwings; wingspan 7 to 10 centimetres. In Sussex, adults appear in two waves which appear mainly from late May to early June and again from mid July to mid August. Larvae feed on burnet saxifrage (*Pimpinella saxifraga* L.) and on the leaves of both wild and cultivated carrot (*Daucus carota* L.) situated in a wide range of habitats.

Historical Perspective and Current Status

Widespread in Europe, in this country the butterfly is an immigrant and currently extinct temporary resident. Historically an extremely rare insect at Rye Bay, just three specimens have been totalled here since the middle of the 19th century - in 1940 and 1945 (2) - although, paradoxically, nearby Hastings is one of the county's foremost areas for the Swallowtail's landfalls.

Current Factors Affecting Status

The stimuli which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range. The factors which allow the species to establish itself here are still the subject of discussion, although climate is almost certainly the main deterrent.

Current Action being Undertaken

None.

Objective of Action Plan

To offer the butterfly the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

As the presence of this butterfly is wholly dependant upon the arrival of migrants from the continent, that during the past 150 years this has only taken place three times at Rye Bay, and that abroad it is not strictly associated with any particular habitat, aside from ensuring that larval foodplants are available, very little else can be done to encourage this alien to naturally found a colony.

It may be that artificial introductions are considered in the future, and quite a number have taken place during recent years in East Sussex. However, it has been shown that, nationally, less than one in a hundred attempts at lepidopterous introduction are genuinely successful - that is, become viably self-sustaining without further augmentation for more than 25 years - and the negative results from the attempts made in Sussex support that failure rate. Until far more knowledge has been acquired that increases the chances of success with releases, this course is not recommended.

subsp. *britannicus* Seitz

Description and Biology

A very large and unmistakable bright yellow and black butterfly, exhibiting "tails" on the hindwings; wingspan 7 to 10 centimetres. Generally single-brooded, adults appear during June and July, and occasionally again later. Larvae feed mainly on milk-parsley (*Peucedanum palustre* Moen.), and less frequently on wild angelica (*Angelica sylvestris* L.), situated amongst reed and sedge beds on the Norfolk Broads.

Historical Perspective and Current Status

There is no evidence, or likelihood, that the *britannicus* subspecies of the Swallowtail has ever naturally inhabited Sussex within entomologically historical times. Moreover, not surprisingly, releases have proved singularly unsuccessful.

Current Factors Affecting Status

The reason for the lack of natural Sussex colonies is not known. The shortage of the main foodplant may be significant, as may be our local climate.

Current Action being Undertaken

None.

Objective of Action Plan

To investigate the possibilities of introducing the English subspecies of the Swallowtail to the Rye Bay area.

Discussion and Proposed Conservation Action

The chances of successfully artificially establishing an alien subspecies on to an equally alien introduced foodplant in Sussex are minuscule. Any conservation effort expended on such a project would be a waste of scarce resources, so this course is emphatically rejected as a viable project.

The Moth Species

Pyralid Moths

Alpine Grass-Veneer *Platytes alpinella* Hubn.

Description and Biology

A very small narrow-winged Pyralid moth - wingspan around 2.0 centimetres - distinctively marked with longitudinal white marks on a brown ground, and with a characteristic triangular projection at the end of the forewings. Adults are generally found in small numbers amongst sand-dunes and on vegetated shingle beaches, where they fly mainly from late June to late August. All Sussex records have been made at mercury vapour light, although moths have been seen feeding from ragwort elsewhere. A moss (*Tortula ruraliformis* Besch., present at Rye Bay) is the larval foodplant on the continent, but still to be confirmed in this country.

Historical Perspective and Current Status

Always a very unusual insect in Sussex, *alpinella* was first discovered in the Rye Bay district at Camber Sands in 1955. Regular records were then made at Camber up until 1962, and more episodically thereafter as in 1976 and 1988. The species was then detected on the adjacent vegetated shingle beach at the Harbour in 1995 and 1996. The highest levels recently recorded in the whole county concern up to nine specimens a night to a mercury vapour light situated at Rye Harbour during August 1997 and 27 specimens at three lights at Camber dunes in July 1999.

Judged as "RDB3" (Nationally Rare) in the Insect Red Data Book.

There is every likelihood that this moth is currently resident in the Rye area, although high numbers are extremely local and distinctly episodic. The insect has been recorded in just over half a dozen other places in Sussex during recent decades, but it is suspected that these are sourced from the European mainland. Rye therefore holds the only likely colony of *alpinella* in the county.

Current Factors Affecting Status

Unknown. A number of national threats to this species have been listed - including loss of habitat to urban development, the holiday industry, golf courses, trampling by humans, and to an increase in scrub due to myxomatosis - but none of this is of any serious consequence at Rye, or in all Sussex. In fact, the creation of the golf-course at Camber actually saved the habitat favoured by *alpinella* from destruction.

Current Action being Undertaken

Rye Harbour and Camber Sands are SSSI's (Sites of Special Scientific Interest).

Objective of Action Plan

To locate and protect any colonies, and then maintain or increase their strength.

Discussion and Proposed Conservation Action

Only when both the position of the colony and the habitat type have been precisely determined can an actively protective stance be made to ensure survival. It is therefore recommended that further research be undertaken to narrow down the exact location of the Rye colony by using strategically-placed mercury vapour lights. Until this strategy is successful in pinpointing the sub-habitat, it is recommended that the general *status quo* of the habitat at Rye Harbour be retained.

Starry Brindled Pearl

***Cynaeda dentalis* D. & S.**

Description and Biology

This is a small to medium sized moth of some beauty, being very variable in wingspan from about 2.0 to 3.0 centimetres, and characteristically coloured and marked in imitation of grass seed-heads (*Carex* spp.). Adults usually occur singly or sparingly at a mercury vapour light placed within half a mile of the sea-shore - vegetated shingle beaches are especially favoured - and fly mainly from early July to late August. Larvae feed internally on viper's-bugloss (*Echium vulgare* L.), and pupate in a hard oval cocoons situated amongst the plant's basal rosette where they can be searched out.

Historical Perspective and Current Status

During the last half of the 19th century *dentalis* was widely distributed along the Sussex coast, and in some places it was plentiful, but after 1904 the species inexplicably became extinct in the whole of the western vice-county. The moth is currently established in a series of seaside settlements that stretch from Beachy Head almost to the Kent border.

The first Rye Bay record was made at Pett levels during the 1870's. Nothing more was reported about the insect at Rye until it suddenly appeared at North Point Beach in 1972. During and since the early 1980's the Pyralid has been well established at the Harbour. Research performed by M. S. Parsons and R. K. A. Morris proved that the breeding area inhabited by *dentalis* at the Harbour in 1992 extended to at least eight spots situated all along the seashore, together with a single inland locality at Winchelsea. The highest modern numerical levels seen in the whole county concern 20 specimens totalled at multiple mercury vapour lights run at Rye Harbour through 1998, and 23 in 1999.

Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown, although the foodplant thrives best on disturbed shingle. It has been said that habitat loss, changes in vegetation due to myxomatosis, motorcycle scrambling, trampling by humans, and fly-tipping, are all national threats to this species. However, none of these are of any serious consequence at Rye, or for that matter in all Sussex.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To maintain or increase the strength of colonies.

Discussion and Proposed Conservation Action

The status of this moth is currently satisfactory at Rye Harbour. The general *status quo* of this habitat should therefore be maintained and the larval foodplant, viper's bugloss, encouraged wherever possible - especially as there are further scarce insects associated with the plant. In addition to the continued annual numerical monitoring of adult *dentalis*, it is also recommended that a survey of viper's bugloss be carried out every few years so that up-to-date knowledge is held on the status of both moth and foodplant. It may be worthwhile observing if the bugloss reacts positively to shingle disturbance, a note to this effect being added to the insect's file, in case of a serious future decrease.

Woundwort Pearl

***Phlyctaenia stachydalis* Ger.**

Description and Biology

This small dark brown Pyralid moth with cream-coloured blotches has a wingspan of about 2.5 centimetres, and is sometimes confused with the similarly-marked but much more numerous *P. coronata*. The species is only seen in singletons, chiefly in woods, and is apparently very local and distinctly episodic in appearance. Adults are recorded at mercury vapour light, mainly between mid June and early August. Larvae feed on woundwort (*Stachys* spp.), although here in Sussex they have only been associated with hedge woundwort (*S. sylvatica* L.).

Historical Perspective and Current Status

This moth is only currently known from three areas in East Sussex - in the Rye district and at Heathfield. While an early record was made at nearby Hastings during the 1890's, the first known sightings of *stachydalis* in the Rye Bay area were made at Houghton Green in 1959 and 1986. The only later encounters concern singletons at the Harbour reserve in 1990 and 1998.

Listed as "RDBK" (Insufficiently Known) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown. The listed national threats to *stachydalis* include loss of habitat to the clear-felling of woods, the uprooting of hedgerows, inappropriate ditch and hedge, and the use of herbicides and pesticides, but none of these are known to have been of any serious consequence at Rye, or in Sussex as a whole.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To determine the insect's true current status in the Rye Bay area, and then to maintain or increase the strength of any colonies.

Discussion and Proposed Conservation Action

Pioneering surveys of woodland sites containing significant quantities of woundwort should be performed in an attempt to locate any local colonies. The larval foodplants, woundwort spp., should be encouraged wherever they exist.

Double-Spotted Honey ***Melissoblaptēs zelleri* de Joan.**

Description and Biology

This is a medium-sized indistinctly-marked ochreous moth with narrow wings, some 2.0 to 3.5 centimetres in span, males always being much smaller than females. Adults are extremely local, and fly mainly from early July to mid August amongst sand-dunes and on the vegetated shingle beaches, where they are said to prefer damp situations. The ultimate stage has only been detected here at mercury vapour light, while elsewhere it has also been seen running about on the surface of sand. The larval foodplant has yet to be identified in Sussex, although a moss growing on sand-dunes (*Brachythecium albicans* Hedw., present at Rye Bay) has been listed in other counties.

Historical Perspective and Current Status

Aside from sightings at Eastbourne in 1912 and 1995, and at Icklesham in 1999, all Sussex records emanate from Rye Bay. The moth was first detected here at Camber Sands in 1990, where it was quite common. Later encounters, of very small numbers, were made on the vegetated shingle beach at Rye Harbour from 1995 to 1999 inclusive and at Camber dunes in 1999.

Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown. It has been said that considerable recreational pressure by holiday-makers at Camber, and the development of the golf courses, may have reduced the amount of habitat available to *zelleri*. However, neither of these statements is true. In fact the creation of golf courses at Camber since the end of the 19th century has saved many acres of scarce vegetated shingle and sand-dune habitat from drastic change or destruction. Furthermore, for many years all but the most rampant of holidaymakers have been excluded from, or at least do not penetrate in large numbers to, the most sensitive sections of Camber's sands.

Current Action being Undertaken

Rye Harbour and Camber Sands are SSSI's.

Objective of Action Plan

To determine the insect's true current status in the Rye Bay area, to locate and protect any colonies, and then to maintain or increase their strength.

Discussion and Proposed Conservation Action

Continued monitoring with mercury vapour light to record the status of adults is essential. Only when both the position of the colony and the habitat type have been precisely determined can an actively protective stance be made to ensure survival. It is therefore recommended that further research be undertaken to narrow down the exact location of the Rye colony by using strategically-placed mercury vapour lights. A search could then be made for larvae amongst ground-level mosses and lichens. The exact action necessary will depend upon these results. The general *status quo* of the habitat at Rye Harbour should be maintained until these tactics have been successful in pinpointing the sub-habitat that this species requires.

Plume Moths

Pterophorus spilodactylus Curt.

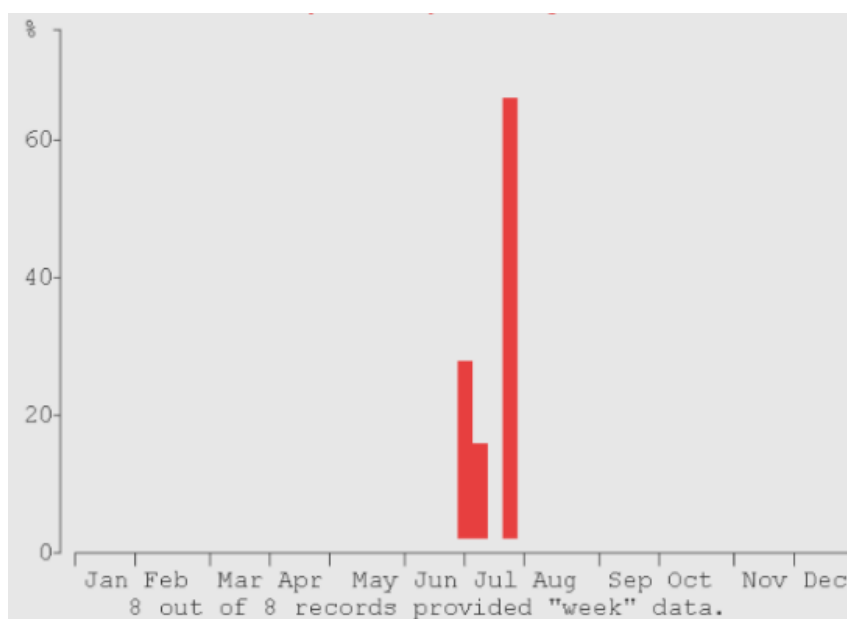
Description and Biology

With its typically broad-fringed multi-lobed elongated narrow wings, spanning around 2.5 centimetres, the moth exhibits a cream ground-colour blotched with brown. Sussex adults have only been seen between late May and late July, although national records are stated to run from July to October. Extremely local, but sometimes fairly common on vegetated shingle beaches. Larvae are only known to feed on the scarce white horehound plant (*Marrubium vulgare* L.) in this country, although the far more frequent black horehound (*Ballota nigra* L.) has also been recorded on the continent.

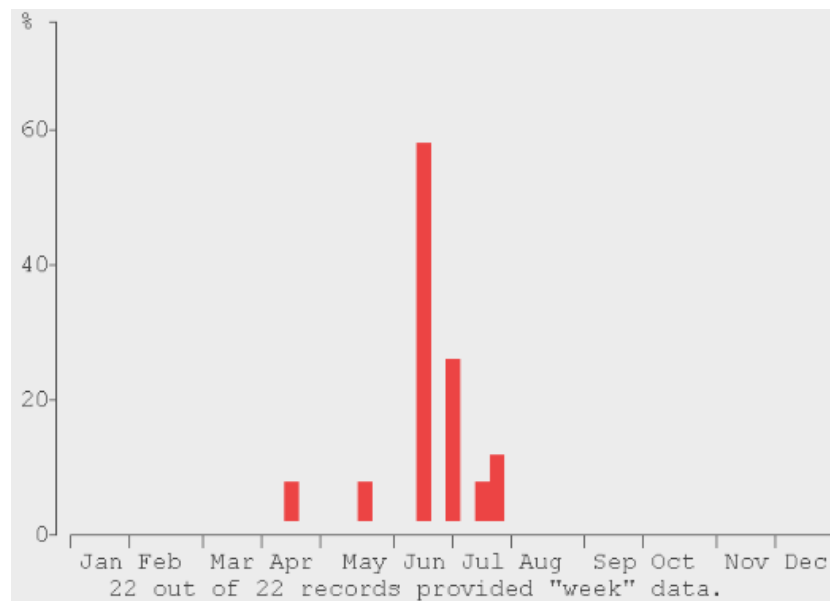
Historical Perspective and Current Status

Just two 19th century sites for this species were detected in all Sussex, on the downs at Brighton and Cissbury. Nothing more was then seen of the moth until the only known current colony of *spilodactylus* was discovered on the vegetated shingle beach at Rye Harbour in 1994. Pioneering researchers counted 74 larvae on the beach in 1995, and 22 in 1997, adult levels sometimes rising to 15 individuals counted per day, as in 1996.

Phenology of adults of *P. spilodactylus* in Rye Bay.



Phenology of larvae of *P. spilodactylus* in Rye Bay.



At the middle of the 20th century just seven British counties were known to support this species. So far as Sussex is concerned, as this Plume is only known to exist at Rye, it is one of the most important entomological inhabitants of the area.

Listed as "RDB2" (Nationally Vulnerable) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown.

Current Action being Undertaken

Rye Harbour has been designated an SSSI, the larval foodplant is being encouraged, and both caterpillars and adults are being monitored annually.

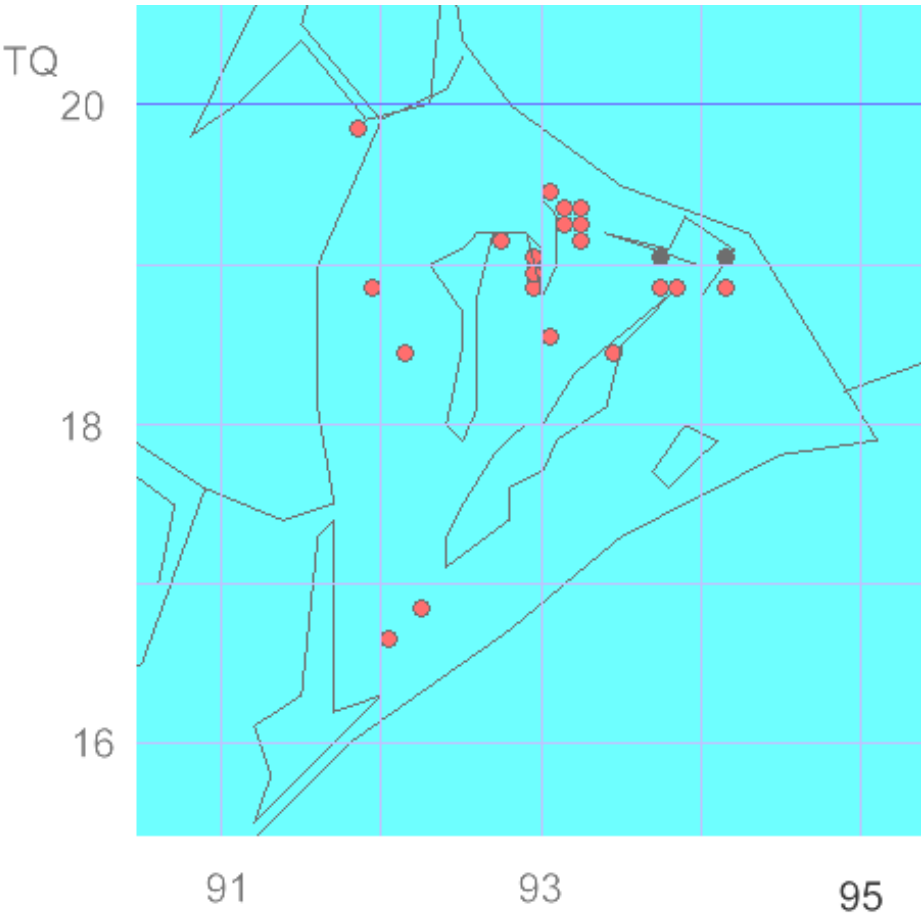
Objective of Action Plan

This insect's current status is so precarious that the objective of this action plan must be nothing short of ensuring its survival as an inhabitant of Sussex.

Discussion and Proposed Conservation Action

The moth's foodplant, white horehound, is a rarity in the whole county. Only seven localities are known for the herb, this being an almost ten-fold decrease since the 1930's. Rye Harbour's plants are considered to be one of only 14 colonies of native white horehound in the whole of Great Britain, apparent introductions accounting for the remainder. The restriction of native white horehound to Rye probably accounts for the restriction of *spilodactylus* to the same area - a very unusual event amongst Sussex moths. Furthermore, the general scarcity of all foodplant colonies probably eliminates any future natural colonisation by the Plume moth - the nearest known settlement of introduced white horehound is more than 20 miles away on Eastbourne's downland. However, as black horehound has been a listed foodplant on the continent, it is recommended that this also be searched for *spilodactylus* larvae at Rye, the discovery of which would be of national importance.

Distribution of white horehound, *Marrubium vulgare* in Rye Bay.



Obviously the continued existence of white horehound is crucial to the welfare of this Plume, and it should be encouraged even to the detriment of less important species. Both the moth and its early stages should be continually monitored with as much diligence as is practicable. All of the results should be recorded in detail, so that a complete dossier is built up on its biology and occurrence at Rye Harbour.

Macro-Moths

Goat

Cossus cossus Linn.

Description and Biology

The Goat is a large and almost unmistakable silvery-grey moth, about 6 to 10 centimetres in wingspan. Adults generally come to mercury vapour light singly from mid June to late July, and (although they have no proboscis) they have also occasionally been seen at sugar patches. There have been a sufficient number of adult records emanating from several different places to suggest that there is probably a series of small colonies surviving in the Rye area.

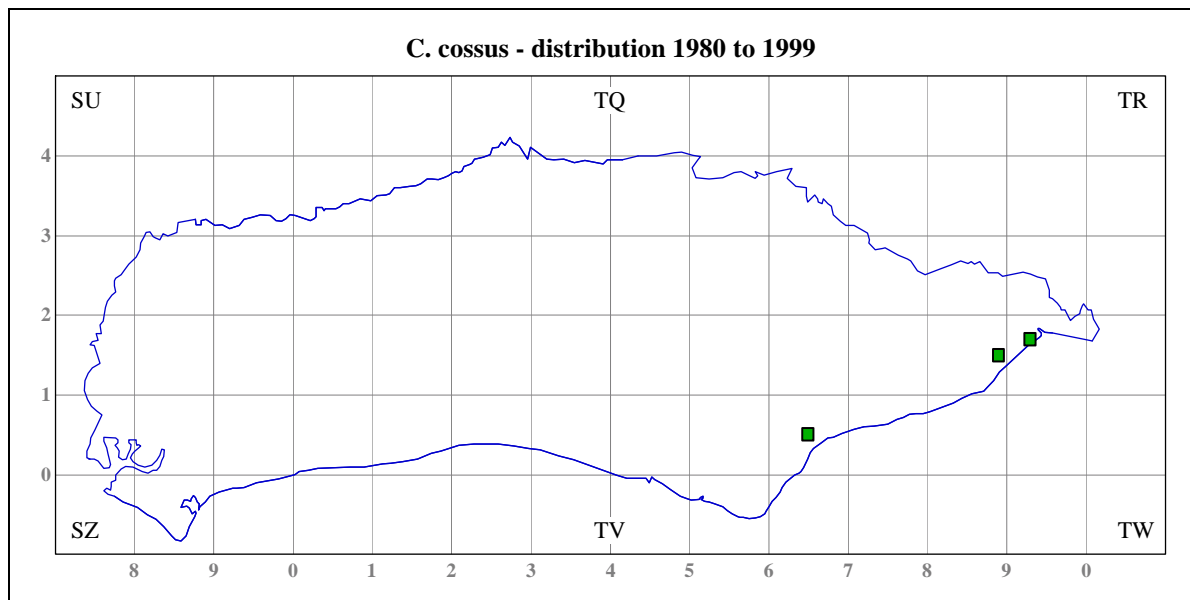
Larvae of this insect used to be found boring in a large number of different tree species situated in a wide range of habitats, although in some localities it was restricted to a single trunk. During recent decades the insect has been mainly restricted to willows (*Salix* spp.) up to around 18" in diameter bordering dykes and reed-beds situated in open, flat, low-lying wetlands. The species can be detected all year round by searching for the presence of old finger-sized mines, which occur up to at least head-height. During the summertime, live borings can be confirmed by the extrusion of coarse light-coloured frass, by the discovery of distinctive caterpillars of all sizes under loose bark, or by the presence of a strong goat-like odour which can sometimes be smelt at least 20 yards away. Woodpeckers are efficient hunters of *cossus* larvae, and signs of their attacks on large exit holes can also betray both modern and old mines to a strolling human searcher.

Under only one set of circumstances should a colony ever be interfered with, and that is to save a host tree from imminent destruction. Should this danger occur, the affected part of the trunk should be carefully removed by chain-saw (*not* by axe) and simply laid alongside a suitable row of nearby safe old willows.

Historical Perspective and Current Local Status

Up until about the mid 1950's this moth was sometimes quite common across the whole of the county, at least very locally in the larval stage. While some communities had declined much earlier, this perhaps being a normal fluctuation, during following years the species suffered a much more widespread and serious decrease. By 1970 the number of West Sussex colonies had been reduced to just three, and it had mainly retreated to the south-east of the county where during the same decade records were made at Horam, Houghton Green, Battle, Mallydams Wood, Moorsholm Farm at Brede, and at Polegate. By 1980 the last western *cossus* record had been made, although the insect has ceased its large-scale retreat from the remainder of Sussex since that time. However, the only new discoveries since then concern moths at Rye Harbour, detected in 1986, 1989, 1996 and 1998, and at Icklesham in 1999.

Currently listed as "Notable" in the Insect Red Data Book.



Current Factors Affecting Status

While accidental summer fires, insectivorous birds, and tree-felling, have all caused individual losses or parochial reductions in the density of distribution in Sussex, the chief reason for the extensive depreciation in both local and country-wide range is not known - although there are some coincidences between the timing of the decrease and climatic temperature change.

Current Action being Undertaken

The district is a SPA (Special Protection Area).

Objective of Action Plan

The insect's current position in the county is so precarious that the objective of this action plan must be nothing short of ensuring its survival as an inhabitant of Sussex.

Discussion and Proposed Conservation Action

Given its historical retreat in range from the remainder of Sussex, this is one of the most seriously endangered indigenous moths in the county and is perhaps Rye Bay's most important native macro-moth. But it is emphasised that until the main natural source of territorial decline reverses - an as yet unknown factor - county-wide conservation effort can only amount to local numerical attenuation.

The exact location of Rye's *cossus* colonies has never been determined and, obviously, no effective local conservation measures can be undertaken until this has taken place. It is therefore recommended that an intensive diurnal survey for live larval mines be made amongst the willow trees situated alongside roads and dykes between Pett and Appledore, and especially from Winchelsea to Rye, to determine the precise location and status of the county's last known settlements. Once found, liaison with the land-owners should be undertaken so that the trees are not accidentally or purposefully felled. Close observation of these communities could reveal the reason for local numerical losses - the discovery of which would be of national importance. Until the seat of our Goat moth colonies has been determined, it is recommended that monitoring for adults with mercury vapour moth-traps continue, as this yields information on the insect's continued presence in the area.

Rest Harrow

***Aplasta ononaria* Fuess.**

Description and Biology

The Rest Harrow is a small to medium sized broad-winged moth with a wingspan of about 2.0 to 2.5 centimetres. It is an obscurely-marked species, with a pale brown ground-colour. The few Sussex records of adults have mainly been made during the month of August, occasionally in June. No evidence of residency in Sussex has ever been collated, although there are nearby settlements in Kent where larvae feed on common restharrow (*Ononis repens* L.).

Historical Perspective and Current Status

As a resident of this country the Rest Harrow has always been confined to natural or semi-natural coastal habitats situated between Dungeness and Folkestone, and Deal and Sandwich. All of the few Sussex specimens - five during the past 150 years - are suspected wanderers, from either Kent or the European mainland. The only Rye Bay record concerns a single specimen at mercury vapour light, seen at Watch Cottage near Rye Harbour on June 20th 1998.

Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown. The stimuli which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range. The factors which allow the species to establish itself here are also not known, although climate is almost certainly the main deterrent.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by enhancing an appropriate habitat.

Discussion and Proposed Conservation Action

As the presence of this moth is wholly dependant upon the arrival of migrants from the continent or pioneers from Kent, and that during the past one and a half centuries this has only taken place once at Rye, aside from ensuring that larval foodplants are available, very little else can be done to encourage this insect to naturally found a colony. However, continued monitoring with mercury vapour moth-traps is recommended, in the remote chance that a colony has been founded in the district.

Sub-Angled Wave

***Scopula nigropunctata* Hufn.**

Description and Biology

This Wave is a medium-sized broad-winged moth - wingspan about 2.0 to 2.5 centimetres - obscurely-marked with grey on a bone-white ground, but with characteristically pointed hindwings. Sometimes identification is confused with other more commonplace Waves which fly from mid July to the third week of August. In Sussex, adults generally fly along wide, sunny, herb-rich, flower-lined rides bisecting conifer plantations (*Picea* and *Pinus* spp.) and beech (*Fagus* spp.). Extremely local, and distinctly episodic in appearance.

The larval foodplant has never been unquestionably determined in the wild in this country, although it has been variously suggested that hedge woundwort (*Stachys sylvatica* L.), broom (*Cytisus scoparius* L.), heather (*Calluna vulgaris* L.), traveller's-joy (*Clematis vitalba* L.), violet (*Viola* L. spp.), speedwell (*Veronica* L. spp.), marjoram (*Origanum vulgare* L.), tufted vetch (*Vicia cracca* L.), tormentil (*Potentilla erecta* L.), and smooth tare (*Vicia tetrasperma* L.), may serve. In northern parts of continental Europe caterpillars are said to feed on many different plants, particularly honeysuckle (*Lonicera periclymenum* L.) and traveller's joy.

Historical Perspective and Current Status

This moth is a temporary resident and suspected rare immigrant in this country. Leaving aside migrant records, there have only ever been three known colonies of the Sub-angled Wave in the British Isles, these being situated at Folkstone Warren where it reappeared from obscurity in 1988 and at Orlestone Forest, both in Kent, and at Friston Forest in East Sussex. Our lone colony at Friston has been in existence since 1986, perhaps since about 1970.

As a presumed continental immigrant *nigropunctata* was first encountered here in 1876, at Alexandra Park in Hastings. The only other example detected in the far east of the county concerns another singleton, captured at Icklesham on August 7th 1996.

Listed as "RDB2" (Nationally Vulnerable) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown. The factors which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range.

Current Action being Undertaken

None.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

The number of recent records of apparently continental immigrants to Sussex and elsewhere during recent decades suggests that the moth is now making a concerted effort to colonise this country. As the presence of this moth is wholly dependant upon these arrivals from the European mainland or wanderers from just three known British residences, and that during the past one and a half centuries the moth has never been seen in Rye Bay, any conservation effort to encourage this insect to naturally found a colony would be better targeted elsewhere.

Bright Wave

***Idaea ochrata cantiata* Prout**

Description and Biology

This is a small broad-winged moth, around 2.0 centimetres in wingspan, of a brownish orange colour, with dark cross-lines on all four wings. Adults fly from late June to early August in Kent, very locally above sand-dunes and sandy shingle beaches. The feral foodplant of *ochrata* larvae is not known in this country.

Historical Perspective and Current Status

As a national resident the Bright Wave is confined to colonies situated in Kent, Essex, and Suffolk. There is only one good Sussex record of the Bright Wave - a single specimen was identified at a mercury vapour light situated at the Nook Beach section of Rye Harbour on July 25th 1996. The source of this individual is uncertain, although it was most likely a wanderer from a Kentish colony.

Listed as "RDB2" (Nationally Vulnerable) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

As the presence of this moth is apparently wholly dependant upon the very rare arrival of wanderers from a few known Kentish residences, that during the past one and a half centuries this has only taken place once, and that the larval foodplant is unknown, very little can be done to encourage this insect to naturally found a colony until more knowledge has been acquired. However, continued monitoring with mercury vapour moth-traps is recommended, in the remote chance that a colony has been founded in the district.

Dotted Footman *Pelosia muscerda* Hufn.

Description and Biology

This is a small innocuous narrow-winged greyish moth, exhibiting noticeable black dots on the forewings, with a wingspan of around 2.5 to 3.0 centimetres. Adults fly mainly from mid July to mid August in a wide range of habitats. Larvae feed on various algae and lichens in some counties, but they have never been found in Sussex.

Historical Perspective and Current Status

This species is a national resident and suspected continental immigrant. Just seven specimens have been detected in Sussex, all at mercury vapour light. Of these, two were seen at Rye Bay - at Houghton Green on August 8th 1981 and at Winchelsea Beach on August 5th 1997.

Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown. The factors which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

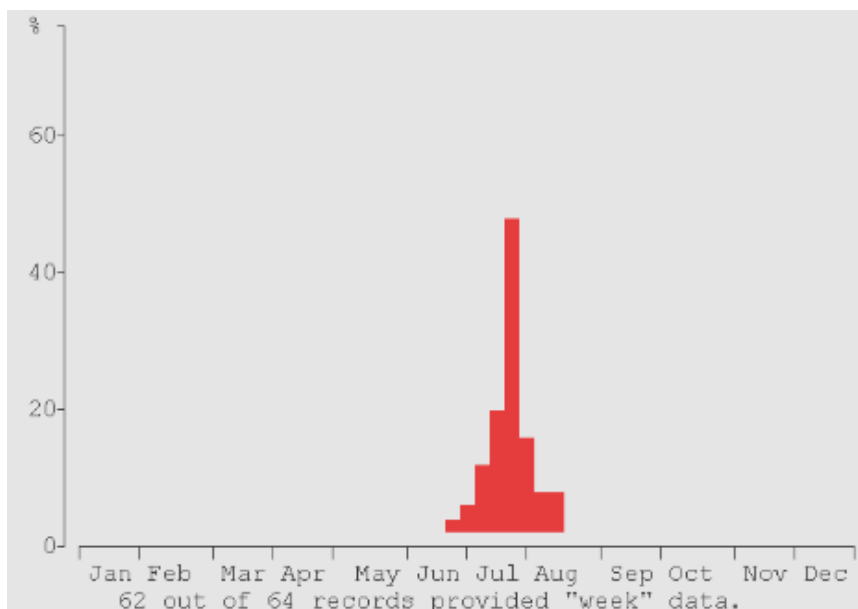
As the presence of this moth is apparently wholly dependant upon the arrival of migrants from the continent, and that during the past one and a half centuries this has only taken place twice at Rye, aside from ensuring that larval foodplants are available, very little else can be done to encourage this insect to naturally found a colony. However, continued monitoring with mercury vapour moth-traps is recommended, in the remote chance that a colony has been founded in the district.

Pigmy Footman

Eilema pygmaeola Doub.

Description and Biology

As its names imply, this is a small slim-winged moth with a wingspan of about 2.5 to 3.0 centimetres. An extremely local insect, but sometimes fairly common, in Sussex adult Pigmy Footman usually come to mercury vapour light in small numbers between the second week of July and mid August, occasionally from mid June to late August.



Phenology of Rye Bay records of *E.pygmaeola*

Two subspecies occur, both of which are listed as national scarcities. One, *pygmaeola*, exhibits yellowish forewings, whilst the other subspecies, *pallifrons*, is white. Both of these colour forms are found on the vegetated shingle beach at Rye Harbour, together with a range of intermediates.

As the insect's early stages have yet to be discovered here, the larval foodplant in Sussex is not known. However, Kentish caterpillars reared in captivity have fed chiefly on lichens of the *Xanthoria* genus, on *Cladonia rangiformis* Hoff., and also on decaying willow leaves (*Salix* spp.) and algae. At nearby Dungeness the small brown furry caterpillars can be found during Spring-time, either by searching the tips of grasses or by sweeping, at night, when they prefer areas where grass and ground-dwelling lichens intermix.

Historical Perspective and Current Local Status

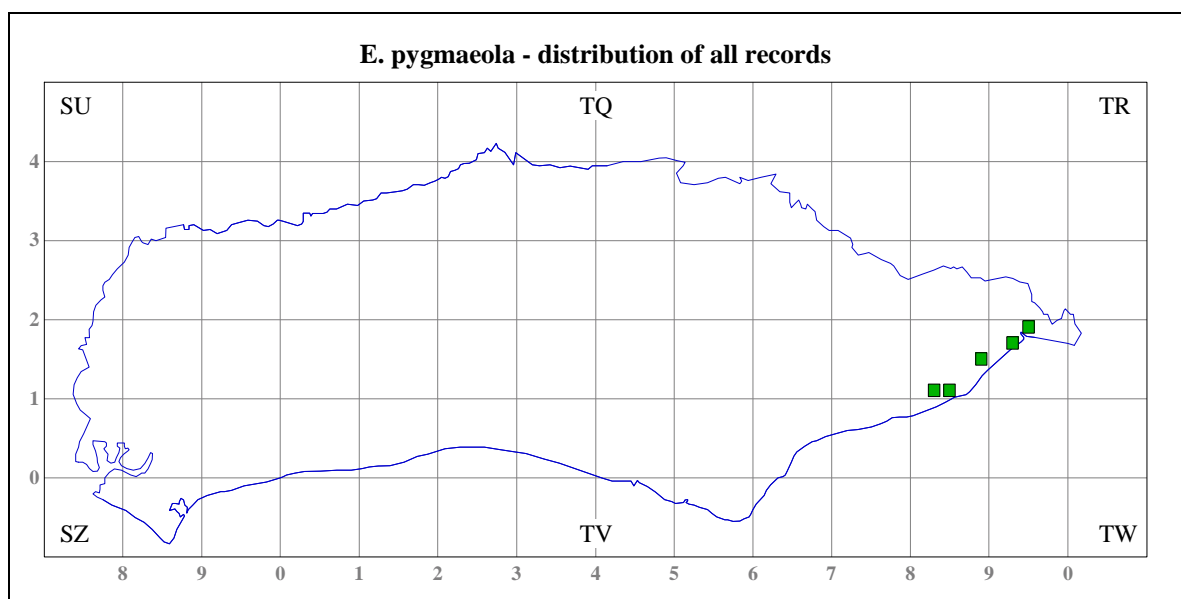
The local record suggests that this moth is a recent arrival to the county. It has been stated that only the white form occurs at Dungeness. If so, as two distinctly different adult forms can be encountered at Rye, migration from the European mainland may have sourced this colony. Whatever, the long series of positive reports from Rye suggest that it has been resident on or near the shingle beach since at least 1975. Judging from numerical observations, the species is currently well established in the area - although it is only thought to be viably based on grassy sections of the vegetated shingle beach on the western side of the River Rother at Rye, or perhaps on its more classic habitat situated on part of the adjacent sand-dunes on the easterly side of the river at Camber.

Number of records of *E. pygmaeola* in Rye Bay each year (from up to five mercury vapour sourced Robinson pattern moth-traps run nightly in five different sites spaced across Rye Harbour SSSI)

1983	1984	1988	1989	1991	1992	1995	1996	1997	1998	1999
1	1	1	1	1	2	4	19	15	5	14

Since the early 1990's further specimens have been detected elsewhere in the far east of the county, at Fairlight in 1992, Icklesham in 1992, 1994, and 1996, and at Hastings in 1997. These recent sightings could be native wanderers from Rye or Kent, or also continental immigrants. On the other hand the westerly progression of records has all the hallmarks of a colonisation, although nationally the species is only known to reside on shingle and sand-dune habitats.

Listed as "RDB2" (Nationally Vulnerable) in the Insect Red Data Book.



Current Factors Affecting Status

Unknown.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To maintain or enhance the insect's presence as a viable inhabitant of Sussex.

Discussion and Proposed Conservation Action

Only when both the precise position of the colony and the habitat type have been determined can a more actively protective stance be made to ensure survival. It is therefore recommended that further research be undertaken to narrow down the exact location of the Rye colony by using strategically-placed mercury vapour lights. A nocturnal search should then be made for Spring larvae. Until these strategies are successful in pinpointing the sub-habitat, it is recommended that the general *status quo* of the habitat at Rye Harbour be retained.

This insect currently holds an unprecedentedly favourable status in our county, and comparisons of past numerical records at Rye with those of continued monitoring will give a warning of any decline.

Jersey Tiger

***Euplagia quadripunctaria* Poda**

Description and Biology

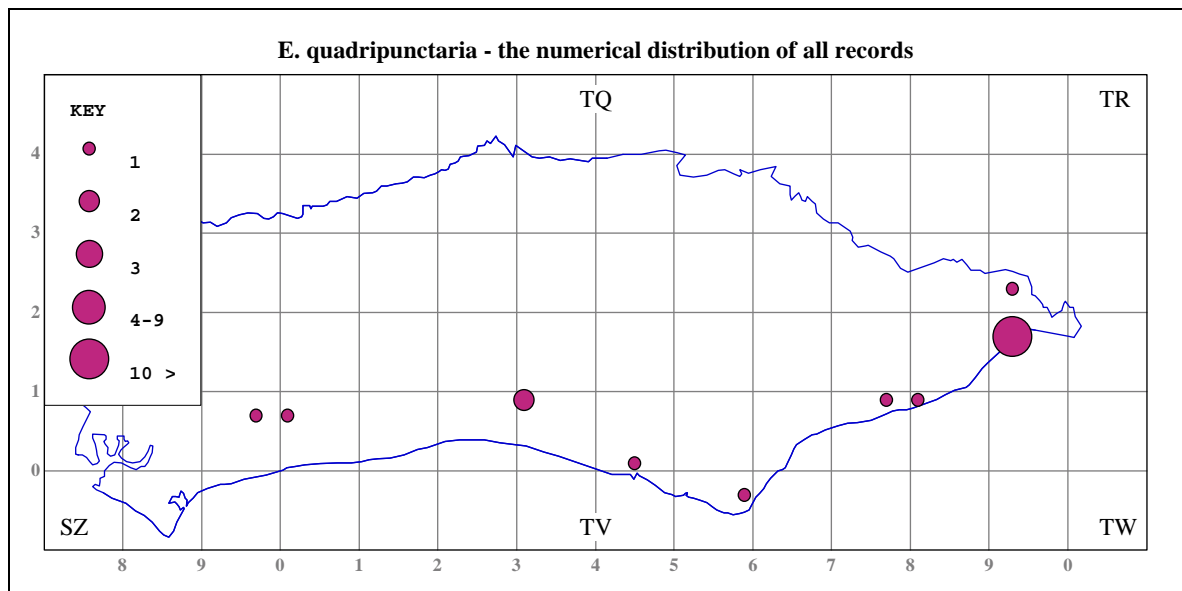
One of the most startlingly beautiful of all British moths, the Jersey Tiger generally exhibits yellow forewings and orange hindwings which are both heavily contrasted with black blotches. Wingspan about 6.0 centimetres. Only ever detected in singletons, the adult stage appears between early August and early September within seven miles of the coast. Distinctly episodic in appearance, the moth flies naturally both by night and day - nocturnally the species comes to mercury vapour light and diurnally it can be found in a wide range of habitats at rest or feeding from garden flowers such as buddleja. Larvae have never been found in Sussex, although in other counties they feed on common nettle (*Urtica dioica* L.), hemp-agrimony (*Eupatorium cannabinum* L.), plantain (*Plantago major* L.), dandelion (*Taraxacum officinale* Web.), ground ivy (*Glechoma hederacea* L.), and white dead-nettle (*Lamium album* L.).

Historical Perspective and Current Status

Widespread in central and southern Europe, this Tiger is also often commonplace in parts of south-western England and on the Channel Islands, while here in Sussex it is an immigrant (either from those localities or from the continent) and a suspected resident at Rye Harbour.

During recent times *quadripunctaria* has occurred in Sussex more frequently than ever before, the Rye Bay area featuring heavily. Single specimens were taken at mercury vapour light at Houghton Green on August 7th 1984, and at Rye Harbour on August 12th and 20th 1997. The largest number ever recorded in the county concerns five *quadripunctaria* seen during August 1998, four at Winchelsea Beach at Rye again (although these could have been repeated sightings of the same specimen) and another a few miles along the coast at St Leonards. The moth reappeared at Rye during early August 1999, when four more examples came to light and one was seen at a buddleia bush. These comparatively high levels and sequential records at Rye, made from 1997 to 1999 inclusive, are unique for Sussex. Some of these particular examples were accompanied by known continental migrants, and may have been sourced from outside of our county, but the succession of sightings is beginning to suggest that a colony has been founded.

Listed as "Notable" in the Insect Red Data Book.



Current Factors Affecting Status

Unknown.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To determine the insect's true current status at Rye Harbour, to locate and protect any colonies, and then to maintain or increase their strength.

Discussion and Proposed Conservation Action

Only when both the position of the colony and the habitat type have been precisely determined can a more actively protective stance be made to ensure survival. It is therefore recommended that further research be undertaken to narrow down the exact location of the Rye colony by using strategically-placed mercury vapour lights to trap adults and by searching for the same stage by day. Until this strategy is successful in pinpointing the species sub-habitat, it is recommended that the general *status quo* of the habitat at Rye Harbour be retained. As a minimum, continued routine monitoring with light is essential. To avoid imprecision over numerical levels, the wings of all trapped adults should be marked to avoid repeated counting of the same individual.

Scarce Black Arches *Nola aerugula* Hubn.

Description and Biology

A small silvery-white moth with blackish markings, with a wingspan of about 1.5 centimetres. Adults fly mainly throughout July, and can be found nocturnally resting on grass stems amongst sand-dunes or at mercury vapour light.

Larvae have never been discovered in Great Britain.

Historical Perspective and Current Status

Believed to be nationally extinct for some time, *aerugula* is currently an immigrant and suspected resident in East Sussex; never detected in West Sussex. Just nine sightings have been made in Sussex since recording began just before the middle of the 19th century, most at Rye Harbour. The first local specimen came to an actinic light positioned on the shingle about 300 yards north-west of the western side of the harbour entrance, at Flat Beach Quarry on July 31st 1994. A further *aerugula*, a very worn example, was captured under the same conditions in Barn Field at Rye Harbour on July 12th 1995. Then another moth was taken in the area, alongside Watch Cottages, on July 28th 1996, this time to an ordinary mercury vapour light. While no more Scarce Black Arches were detected in 1997 or 1998, the species reappeared in 1999 - two such examples were examined on July 2nd. These sequential records suggest that the insect has founded a weak colony on the shingle at Rye Harbour, probably since 1994, although the final sightings coincide with another pair found inside a mercury vapour-sourced moth-trap situated at nearby Icklesham on July 4th 1999 and 3 at Dungeness on July 3rd – 5th 1999.

Current Factors Affecting Status

Unknown. The factors which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To determine the insect's true current status at Rye Harbour, to locate and protect any colonies, and then to maintain or increase their strength.

Discussion and Proposed Conservation Action

Only a little is known about the natural history of this species in the British Isles, although larvae are said to feed on bird's-foot trefoil (*Lotus corniculatus* L.) and various species of clover (*Trifolium* L. spp.) abroad, which makes effective conservation in the short-term difficult. Only when both the position of the colony and the habitat type have been precisely determined can a more actively protective stance be made to ensure survival. It is therefore recommended that further research be undertaken to narrow down the exact location of the Rye colony by using strategically-placed mercury vapour lights. Until this strategy is successful in pinpointing the species sub-habitat, it is recommended that the general *status quo* of the habitat at Rye Harbour be retained. As a minimum, continued monitoring with light to record the status of adults is essential.

White Spot

***Hadena albimacula* Bork.**

Description and Biology

albimacula is a striking medium-sized moth, black with a white blotch, about 3.5 centimetres in wingspan. Adults fly mainly during June and July, come to mercury vapour light, and can also be seen feeding from flowers. In Sussex the insect is only known to have resided on vegetated shingle beaches, although in some other counties it also inhabits chalk or limestone cliffs. Larvae feed exclusively on Nottingham catchfly (*Silene nutans* L.). This plant now seems to have almost disappeared from our side of the Dungeness peninsula. Moreover, away from the Kent border, the plant is reduced to just two colonies in the whole county (at Woodingdean and Climping).

Historical Perspective and Current Status

This insect has only been found breeding in Kent, Hampshire, Devon, and transiently in Sussex. Here the White Spot has only ever been certainly established on our section of the beach situated on the western side of Dungeness, at Jury's Gap. The moth is known to have been resident in this area in about the mid 1950's, this perhaps being the case since at least 1930, but by the late 1960's it was extinct. About four presumably vagrant specimens have been recorded in alien Sussex habitats, and just two similarly sourced specimens at Rye Bay - at the Harbour on June 11th and 14th 1997.

Listed as "RDB2" (Nationally Vulnerable) in the Insect Red Data Book.

Current Factors Affecting Status

Given that the insect has a current potential to colonise new adjacent areas of shingle beach, a lack of foodplant may well be inhibiting this process.

Current Action being Undertaken

Jury's Gap is situated within the Dungeness SSSI.

Objective of Action Plan

To determine the true current status of both moth and foodplant to the east of Camber, to locate and protect any colonies, and then to maintain or increase their strength.

Discussion and Proposed Conservation Action

An overview must conclude that any colony of the White Spot found at Jury's Gap (or even at Rye Harbour) is just an insubstantial outpost of the famous Dungeness settlement, and that other lepidoptera listed here should take precedence in conservation effort. Despite this judgement, it is also true to say that, due to the politically drawn county boundary between Kent and East Sussex, any colony would be the county's only known representative of that species. It is therefore recommended that a survey for both plant and *albimacula* caterpillars should be made on suitable habitat to the east of Camber and, in the event of success, every effort made to conserve both.

Toadflax Brocade

Calophasia lunula Hufn.

Description and Biology

A medium-sized moth, striated with grey and marked with white and black, with a wingspan of around 2.5 to 3.0 centimetres. Double-brooded, flying mainly from mid May to late June, and again from mid July to late August. Adults are generally only seen in singletons at mercury vapour light, while larvae are sometimes fairly common to common on shingle beaches and waste places within a mile of the sea-shore. Colonies are sparsely distributed, very local, and adults are distinctly episodic in appearance.

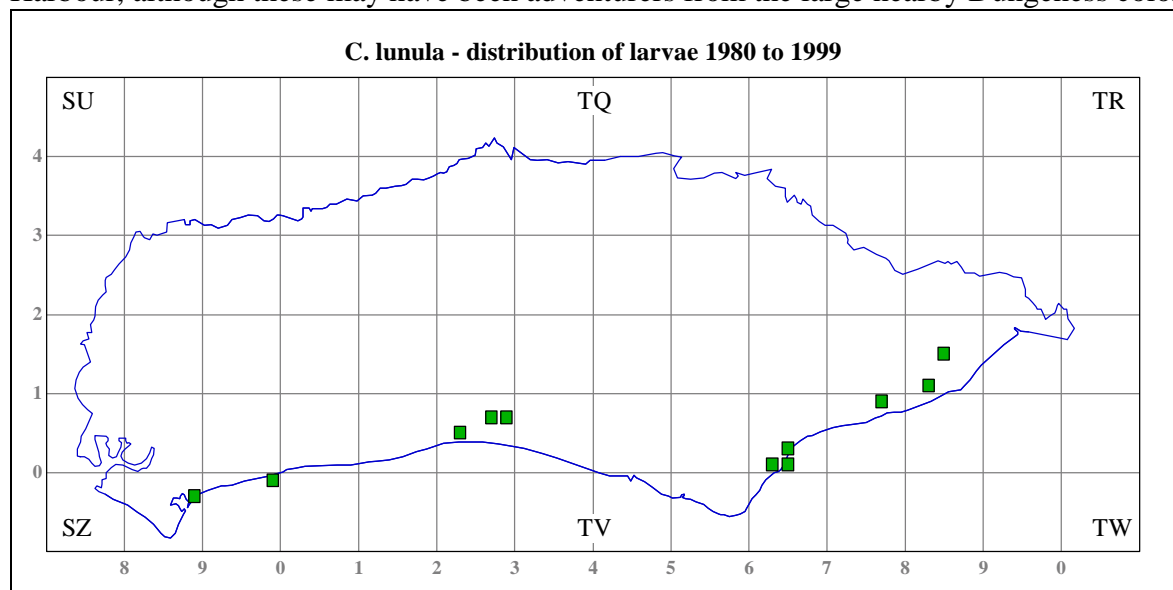
For a few decades after their discovery at the middle of the 20th century, *lunula* larvae predominantly fed on common (yellow) toadflax (*Linaria vulgaris* Mill.) - but nowadays they seem to prefer the naturalised, but therefore originally alien, purple toadflax (*L. purpurea* Mill.). Caterpillars are easily detected when feeding by day amongst flower heads, due to their comparatively bright and colourful yellow and black markings. Their yellow or purple-flowered foodplants flourish best on disturbed ground, and are even easier to see. Cocoons are spun under miscellaneous light debris, such as pieces of drift-wood and discarded cigarette packets.

Historical Perspective and Current Status

This species is nationally restricted as a resident to the coasts of Kent and Sussex, although as a suspected immigrant it also occasionally occurs inland elsewhere.

Apart from a disputed record in Essex in 1817, the history of *lunula* in Great Britain did not start until 1939 when the first well documented capture was made near Shoreham. The history of the species in the far east of the county area started in 1950, when another adult was detected at Hollier's Hill in Bexhill. By 1953 larvae were commonplace at Hastings, and smaller numbers were also found at Pett Levels. This status was then held for a few years, and in 1955 an adult was also seen at Camber, but this was to be the zenith of the status of the Toadflax Brocade - both in the Hastings to Kent district area and in Sussex as a whole.

So far as the far east of the county is concerned, this Brocade is currently established along the coast at Normans Bay and Pebsham. Uniquely, in 1990 a probably rogue pupa was found three miles inland at Guestling Thorn. In 1996 and 1997 adults were also detected at Rye Harbour, although these may have been adventurers from the large nearby Dungeness colony.



Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

Uncertain, although the national increase in both moth and the purple toadflax plant came at a time of progressively increasing annual temperature - which began from a nadir during the 1900's, peaked at a then uniquely high point during the 1940's, with more erratic and even higher shortlived subsequent peaks since the mid 1970's. It has therefore been suggested by some that the moth is vulnerable to short-term periods of unfavourable features of climatic fluctuation. While the truth of this has yet to be tested and the particular influence identified, the history of this species does have all the hallmarks of climatic attenuation. More parochially, a lack of foodplant could be inhibiting the species in some areas, although it is by no means certain that *lunula* currently has the potential to colonise new areas as the insect is certainly missing from some seemingly ideal places with plenty of foodplant.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To determine, and then maintain or improve, the current status of both moth and foodplants in the Rye Bay area.

Discussion and Proposed Conservation Action

It is emphasised that until the main natural source of territorial decline reverses - in this case a probably climatically-sourced phenomenon - county-wide conservation effort can only amount to local numerical attenuation.

Almost all of the adult records have been made at mercury vapour light, and the few such sightings that have been made in recent years present an unusually incoherent pattern suggestive of a mixture of home-produced specimens and immigrants from the European mainland - but the present status of *lunula* in Sussex is still precarious. For example, the moth's foremost site, on Eastbourne's Crumbles, is under continual erosion from house-building, gravel extraction, and a marina. Most of that area has been completely destroyed during the modern era - and along with it most of the *lunula*.

There is every reason to believe that there has been a serious decline in the number of breeding sites during the past few decades, although there may have a partial resurgence in very recent years. It is therefore recommended that a survey for wild and domestic common and purple toadflax be performed in the Rye Bay district, and any plants searched for feeding *lunula* larvae. In the event of success, every effort should be made to ensure that the plants survive without interference and that later generations are encouraged. Continued monitoring with mercury vapour moth-traps would also be an advantage for the future.

Beautiful Gothic ***Leucochlaena oditis* Hubn.**

Description and Biology

A medium-sized dark brown moth, beautifully netted with pale lines, of about 3.0 centimetres in wingspan. Adults inhabit grassy slopes and cliffs by the sea, flying from late August to early October. A very local species, the ultimate stage comes to mercury vapour light and can also be nocturnally found at rest on grass stems. Larvae feed on a wide range of grasses, including couch (*Elymus* L. spp.) and annual meadow-grass (*Poa annua* L.).

Historical Perspective and Current Status

This insect is only known to be resident in south-west England, as far east as Freshwater on the Isle of Wight. The only Sussex specimens of *oditis* were captured in a mercury vapour sourced moth-trap situated in a domestic garden at Aldwick Bay on October 21st 1976, and in an actinic trap at Lime Kiln Cottage at Rye Harbour adjacent to the saltmarsh on October 3rd 1999. These moths are presumed to have been wanderers from the more western colonies.

Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

The history of this insect at Rye Bay rests on a single specimen, this being an adventuring stray from either south-west England or possibly the continent. As the presence of this moth is wholly dependant upon the arrival of such wanderers, that during the past one and a half centuries this has only taken place once at Rye, and that the foodplants are already commonplace, any conservation effort to encourage this insect to naturally found a colony would be better targeted elsewhere. However, continued monitoring with mercury vapour moth-traps is recommended, in the remote chance that a colony has already been founded in the district.

Marsh Dagger

***Acronicta strigosa* D. & S.**

Description and Biology

The Marsh Dagger is a small to medium-sized grey moth with black markings, exhibiting a wingspan between 2.5 and 3.0 centimetres. Adults fly from late June to late July, come to mercury vapour light and sugar, and are sometimes found at rest. The species colonises mature hawthorn hedgerows and woodland, preferring damp situations such as the edges of fens and marshy commons, where larvae feed mainly on hawthorn (*Crataegua monogyna* Jacq.), sometimes on blackthorn (*Prunus spinosa* L.).

Historical Perspective and Current Status

This insect used to inhabit the Fens of England but it has not been seen since 1933. However, extraordinarily, the first British record for more than 60 years was made at mercury vapour light at Watch Cottages on the vegetated shingle beach at Rye Harbour on July 22nd 1996. This particular moth is presumed to have been a migrant from the continent.

Current Factors Affecting Status

The factors which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

The history of this insect at Rye Bay rests on a single specimen, this probably being an adventurer from the European mainland. As the presence of this moth is wholly dependant upon the arrival of such wanderers, that during the past one and a half centuries this is only known to have taken place once in Great Britain, and that to some extent its old national habitat type already exists at Rye Bay, any conservation effort expended on this species would currently be a waste of scarce resources. However, continued monitoring with mercury vapour moth-traps is recommended, in the remote chance that a colony has already been founded in the district.

Concolorous ***Photedes extrema* Hubn.**

Description and Biology

A small to medium-sized cream-coloured moth, with a wingspan of 2.5 to 3.0 centimetres. Adults fly from mid June to mid July, come to mercury vapour light at dusk and again after midnight, and are occasionally found at rest on its foodplant. The species is very local and inhabits marginal fenland and clearings in damp woodland, where larvae feed inside the stems of purple small-reed (*Calamagrostis canescens* Web.) and wood small-reed (*C. epigejos* Roth.).

Historical Perspective and Current Status

In this country the Concolorous is restricted to colonies in Huntingdonshire, Northamptonshire, and Lincolnshire. Here in Sussex the moth is a very rare presumed immigrant, found here just twice - at Eastbourne in 1957 and amongst the shingle and reedy dykes at the Winchelsea end of Rye Harbour on July 4th 1985.

Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

The factors which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range. In the Rye Bay area, purple small-reed is unknown and wood small-reed only exists at the Harbour - although whether this has any bearing on the current status of *extrema* is uncertain.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

The history of this insect at Rye Bay rests on a single specimen, this being a presumed continental immigrant. As the presence of this moth is wholly dependant upon the arrival of such rarities, that during the past one and a half centuries this has only taken place once at Rye, and that to some extent its habitat already exists at Rye Harbour, any conservation effort expended on this species would currently be a waste of scarce resources. However, pioneering research should be performed amongst the wood small-reed near Winchelsea, and continued monitoring with mercury vapour moth-traps elsewhere is also recommended, in the remote chance that a colony has already been founded in the district.

Marsh Mallow

Hydraecia osseola hucherardi Mab.

Description and Biology

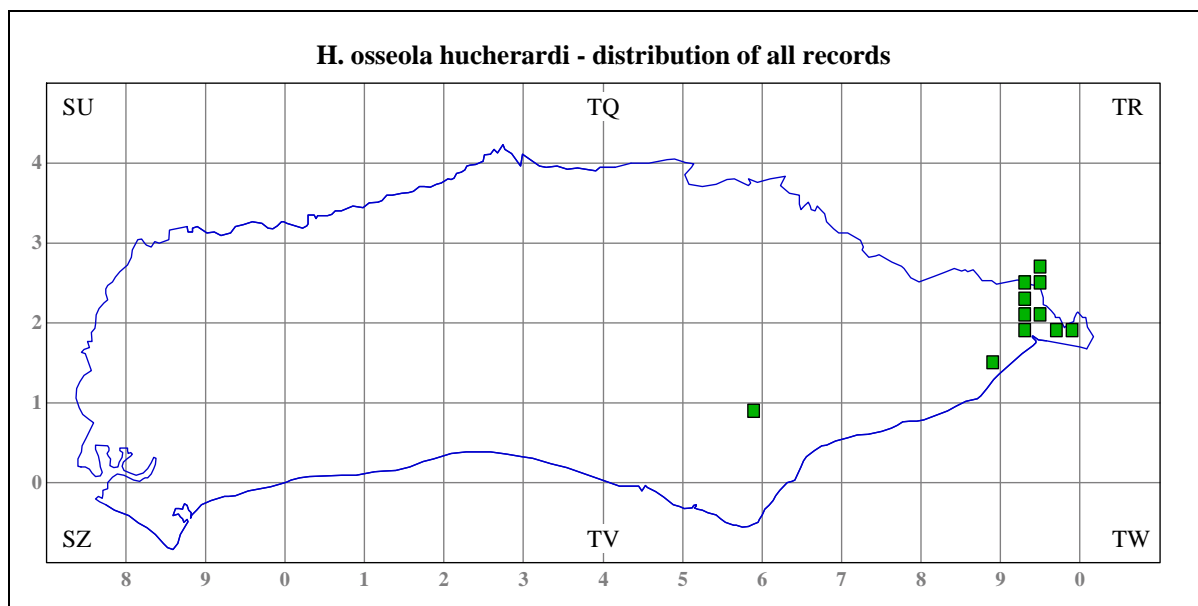
This is a medium-sized cream-coloured moth, with a wingspan of around 4.0 centimetres. Adults are very local, fly chiefly between late August and late September, and come to mercury vapour and tungsten light. They can also be found at rest on, or flying around, the larval foodplant. Caterpillars exclusively feed upon the root-stock of the marsh mallow plant (*Althaea officinalis* L.), which only exists in open wet habitats such as low-lying and sometimes water-logged fields, and especially alongside dykes and slow-running rivers.

Historical Perspective and Current Status

The first British records of the Marsh Mallow moth were made at Hailsham in 1951 and 1952 - but it was never to be seen there again. The next phase of this insect's local history began in 1953, when it was discovered in the Rye district. During the following few years many lepidopterists and researchers visited the area, eventually determining the life-history of *osseola* for the first time. Apart from the inaugural records, in all the insect was encountered in eight two-kilometre squares just to the east of Rye.

From about 1966 onwards the moth started to decline in Sussex. By the 1970's the insect was only known from three spots - near Houghton Green, East Guldeford, and at Rye Harbour. Then final sightings were made in the first two mentioned localities, in 1985 and 1995 respectively. So far as is known, only one strong colony has survived near Rye, near Moneypenny, where, after discovery in 1994, seven specimens of *osseola* were counted during an evening in 1995 and 25 in 1999. However, single moths have also been seen at Rye Harbour in 1997 and at Icklesham in 1998; a pair were noted at the Harbour again during 1998, and five more in 1999, which probably indicate the presence of further undiscovered small colonies. The increasing number of very recent records suggests that a natural recolonisation of the Rye area may well already be underway. The only other current British settlement is situated in Kent.

Listed as "RDB1" (Nationally Endangered) in the Insect Red Data Book.



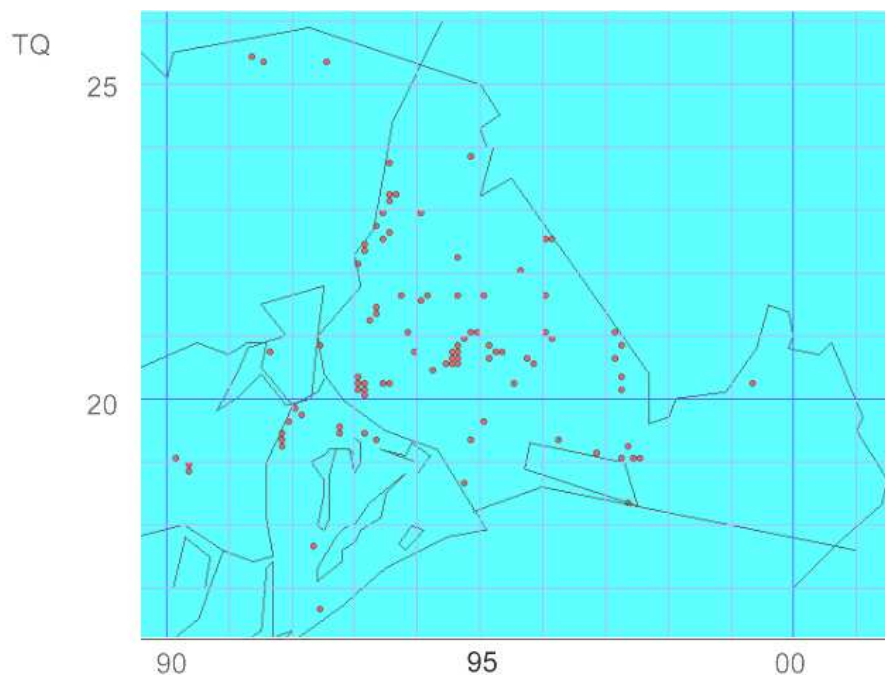
Current Factors Affecting Status

There has been disagreement amongst experts as to whether this moth was a coloniser from the continent since around 1950 or simply an overlooked native. Either way, *osseola* is at the very limit of its range here - which means it is particularly vulnerable to adverse natural influences.

A number of factors have been listed as possibly adversely affecting this moth. These include the serious predation of adults by large beetles, and more bizarrely by lizards; parasitism of larvae also takes place, but this is unusual; collectors certainly used to be zealous, but there is no evidence that their attentions were of any consequence in reducing the number of colonies.

One of the most significant *potential* factors in the decline of *osseola* has been a serious reduction in the amount of available foodplant, this taking place since the 1970's. Farmers destroy the weed in fields, sheep actively seek out and eat the plant, and river-widening schemes and foliage clearance from the sides of dykes have caused more serious losses. It is suspected by some that the predominance of dry weather since the 1970's may have adversely affected both mallow and insect, as water levels fell away from the plant's root-stock, or as a more subtle influence. But whether or not the serious reduction in foodplant is entirely responsible for the current rarity of insect colonies is far from certain - the moth had disappeared from some banks of mallow near Rye before modern-day scarcity.

Distribution of Marsh Mallow foodplant, marshmallow, *Althaea officinalis*, in Rye Bay.



Current Action being Undertaken

Rye Harbour has been designated an SSSI. The natural population of the marsh mallow plant at the Harbour has also been bolstered by introductions, giving *osseola* the potential to expand.

Objective of Action Plan

To improve the current status of both moth and foodplants in the Rye Bay area.

Discussion and Proposed Conservation Action

It is recommended that the area to the east of Rye be intensively surveyed for both moth and foodplant, to more accurately determine their current status, and that this be performed regularly in the future. The only other practical steps that can be taken to further encourage this insect in Sussex is to discourage the destruction of marsh mallow plants by farmers and the Environment Agency. This organisation and relevant land-owners should therefore be contacted to further this aim. Most important of all, a special effort should be made to liaise with the land-owners of the last known Sussex colonies of *osseola*.

Under the highly unusual and specific historical circumstances that this moth has endured here, the artificial introduction of marsh mallow plants to Rye Harbour is a good tactic. All of the plant introductions and results should be recorded in detail, so that a complete dossier is built up on the insect's biology and occurrence at Rye Harbour. However, even a small-scale expansion in range or in numerical levels stimulated by such work is by no means an automatic response in any insect. The practise will only be successful where a shortage of foodplant has previously been a restraining influence and when the species currently has the capability to increase further - and territorial enlargement specifically due to these factors is an extremely rare event amongst the moths of Sussex.

Until it is known for certain just what caused the serious reduction in Sussex colonies, the local re-introduction of moths is not recommended in case a detrimental organism is thereby accidentally spread.

Silver Barred ***Deltote bankiana* Fab.**

Description and Biology

This is a small olive-green moth when fresh, about 2.0 centimetres in wingspan, with two distinctive bright silvery bands obliquely crossing the forewings. Adults are noticeably episodic in appearance and fly mainly between the second week of June and late July, are readily disturbed by day, and come to mercury vapour light at night. Where established in other counties the species inhabits marshes, fenland, boggy heathland, and occasionally chalk grassland, but here in Sussex sightings have been made in a wider range of habitats. Feral larvae have never been found in the county, although elsewhere they feed on purple moor-grass (*Molinia caerulea* Moen.), smooth meadow grass (*Poa pratensis* L.), and other unspecified fen-land grasses.

Historical Perspective and Current Status

So far as is known, this moth has only ever been established in Cambridgeshire and Kent, although quite a number of presumed immigrants from the European mainland have also been recorded elsewhere. Just nine specimens of *bankiana* have been detected in Sussex during the past 150 years, all in the east since the middle of the 20th century. In and near the Rye Bay area, sightings were made in 1976 amongst the sand-dunes at Camber and domestically at Fairlight, in 1986 near the Union Channel canal at Houghton Green, in 1996 at Rye Harbour village, and in 1998 on the vegetated shingle beach at adjacent Winchelsea Beach.

Listed as "RDB3" (Nationally Rare) in the Insect Red Data Book.

Current Factors Affecting Status

Unknown. The factors which inspire lepidoptera to migrate are yet to be recognised, although the purpose is to extend their range.

Current Action being Undertaken

Rye Harbour and Camber Sands are SSSI's.

Objective of Action Plan

To offer the moth the potential to establish itself in the Rye Bay area by providing an appropriate habitat.

Discussion and Proposed Conservation Action

While most of the Sussex sightings were made in sympathetic habitats, there is no very good evidence that the moth has ever been resident in Sussex. Until the results of continuing monitoring at Rye suggest that a colony exists, any conservation effort expended on this species would currently be a waste of scarce resources.

Plumed Fan-Foot

***Pechipogo plumigeralis* Hubn.**

Description and Biology

A medium-sized brown moth, with pointed tips to broad forewings, about 3.5 centimetres in wingspan. Adults fly mainly from the third week of July to late August on vegetated shingle beaches, are extremely local, and come to mercury vapour light. The foodplant of feral larvae is not known.

Historical Perspective and Current Status

The second British specimen of *plumigeralis* was captured at Rye Harbour on July 22nd 1996. The moth was accompanied by other extreme British rarities on the same night at Rye, including *strigosa*, and one night later at Walberton (Arundel) by an *E. limbata*. Two more specimens of this Fan-foot were then caught at the Harbour in 1996, on August 8th and 11th. In 1997 the species reappeared on the beach, 100 yards away from the earlier captures, a female being trapped on August 25th. In 1998 three more examples were noted in the same spot, females on July 20th and 25th, and a male on August 10th, and in 1999 yet another was seen on August 2nd. This series of observations strongly suggests that *plumigeralis* is now resident near Rye, this being the only known British colony.

Current Factors Affecting Status

Unknown.

Current Action being Undertaken

Rye Harbour has been designated an SSSI.

Objective of Action Plan

To maintain or improve the current status of the Plumed Fan-foot in the Rye Bay area.

Discussion and Proposed Conservation Action

This moth is the most important adventive to currently exist in the Rye Bay district. Continued monitoring with mercury vapour light to record the status of adults is therefore essential. An intensive nocturnal search should also be made for adults feeding from flower-heads, and their subsequent behaviour observed, in an attempt to determine the species larval foodplant and the seat of any colony. All of the results should be recorded in detail, so that a complete dossier is built up on its occurrence at Rye Harbour. Until much more is known about the natural history of this species, it is recommended that the general *status quo* of the habitat at Rye Harbour be retained.

A Provisional List of the Lepidoptera of Rye Bay

The following list of species conforms to the nomenclature set out in J. D. Bradley and D. S. Fletcher's "A Recorder's Log Book or Label List" of British butterflies and moths published in 1979, with a few additions and subsequent modernisations. The compilation has been collated mainly from field research performed by the Two Bays, One Environment Project during recent years, and from historical data published in "A Revised History of the Butterflies & Moths of Sussex" by Colin R. Pratt, published in 1999, where all records are represented or listed in detail.

SCIENTIFIC NAME	ENGLISH NAME	FAMILY	BRITISH STATUS
<i>Micropterix aruncella</i>	a micro-moth	Micropterigidae	Unknown
<i>Micropteryx calthella</i>	a micro-moth	Micropterigidae	Common
<i>Eriocrania subpurpurella</i>	a micro-moth	Eriocraniidae	Unknown
<i>Hepialus humuli</i>	Ghost Moth	Hepialidae	Common
<i>Hepialus sylvina</i>	Orange Swift	Hepialidae	Common
<i>Hepialus lupulinus</i>	Common Swift	Hepialidae	Common
<i>Stigmella aurella</i>	a micro-moth	Nepticulidae	Common
<i>Stigmella fragariella</i>	a micro-moth	Nepticulidae	Local
<i>Incurvaria masculella</i>	a longhorn moth	Incurvariidae	Unknown
<i>Lampronia oehlmanniella</i>	a longhorn moth	Incurvariidae	Unknown
<i>Nematopogon swammerdamella</i>	a longhorn moth	Incurvariidae	Unknown
<i>Nematopogon metaxella</i>	a longhorn moth	Incurvariidae	Unknown
<i>Nemophora degeerella</i>	a longhorn moth	Incurvariidae	Common
<i>Adela reamurella</i>	a longhorn moth	Incurvariidae	Common
<i>Adela rufimitrella</i>	a longhorn moth	Incurvariidae	Local
<i>Adela fibulella</i>	a longhorn moth	Incurvariidae	Local
<i>Zeuzera pyrina</i>	Leopard Moth	Cossidae	Common
<i>Cossus cossus</i>	Goat Moth	Cossidae	Notable/Nb
<i>Zygaena filipendulae</i>	Six-spot Burnet	Zygaenidae	Common
<i>Zygaena trifolii</i>	Five-spot Burnet	Zygaenidae	Local
<i>Zygaena loniceræ</i>	Narrow-bordered Five-spot Burn.	Zygaenidae	Common
<i>Apoda limacodes</i>	Festoon	Limacodidae	Notable/Nb
<i>Taleporia tubulosa</i>	a bagworm moth	Psychidae	Common
<i>Psyche casta</i>	a bagworm moth	Psychidae	Common
<i>Epichnopteryx plumella</i>	a micro-moth	Tineidae	Unknown
<i>Nemapogon cloacella</i>	Cork Moth	Tineidae	Common
<i>Nemapogon wolffiella</i>	a micro-moth	Tineidae	Notable/Nb
<i>Nemapogon ruricolella</i>	a micro-moth	Tineidae	Notable/Nb
<i>Triaxomera fulvimitrella</i>	a micro-moth	Tineidae	Local
<i>Monopis leavigella</i>	Skin Moth	Tineidae	Unknown
<i>Monopis obviella</i>	a micro-moth	Tineidae	Local
<i>Monopis imella</i>	a micro-moth	Tineidae	Notable/Nb
<i>Niditinea fuscipunctella</i>	Brown-dotted Clothes Moth	Tineidae	Unknown
<i>Tinea pellionella</i>	Case-bearing Cothes Moth	Tineidae	Unknown
<i>Tinea pallescentella</i>	Large Pale Clothes Moth	Tineidae	Unknown
<i>Tinea semifulvella</i>	a micro-moth	Tineidae	Unknown
<i>Tinea trinotella</i>	a micro-moth	Tineidae	Unknown
<i>Lyonetia clerkella</i>	Apple Leaf Miner	Lyonetiidae	Common

<i>Bucculatrix maritima</i>	a micro-moth	Lyonetiidae	Unknown
<i>Caloptilia stigmatella</i>	a micro-moth	Gracillariidae	Common
<i>Caloptilia syringella</i>	a micro-moth	Gracillariidae	Common
<i>Parornix anglicella</i>	a micro-moth	Gracillariidae	Unknown
<i>Parornix finitimella</i>	a micro-moth	Gracillariidae	Unknown
<i>Phyllonorycter harrisella</i>	a micro-moth	Gracillariidae	Common
<i>Phyllonorycter messaniella</i>	a micro-moth	Gracillariidae	Common
<i>Phyllonorycter oxyacanthae</i>	a micro-moth	Gracillariidae	Common
<i>Phyllonorycter cydoniella</i>	a micro-moth	Gracillariidae	Unknown
<i>Phyllonorycter corylifoliella</i>	a micro-moth	Gracillariidae	Unknown
<i>Phyllonorycter anderidae</i>	a micro-moth	Gracillariidae	Local
<i>Phyllonorycter nicellii</i>	a micro-moth	Gracillariidae	Common
<i>Phyllonorycter trifasciella</i>	a micro-moth	Gracillariidae	Local
<i>Sesia bembeciformis</i>	Lunar Hornet Moth	Sesiidae	Common
<i>Synanthedon culiciformis</i>	Large Red-belted Clearwing	Sesiidae	Notable/Nb
<i>Anthophila fabriciana</i>	Nettle-tap	Choreutidae	Common
<i>Glyphipterix simplicella</i>	Cocksfoot Moth	Glyphipterigidae	Common
<i>Tinagma ocnestomella</i>	a micro-moth	Douglasiidae	Local
<i>Tinagma balteolella</i>	a micro-moth	Douglasiidae	pRDB 1
<i>Argyresthia goedartella</i>	a small ermine moth	Yponomeutidae	Common
<i>Argyresthia bonnatella</i>	a small ermine moth	Yponomeutidae	Unknown
<i>Yponomeuta cagnagella</i>	Spindle Ermine	Yponomeutidae	Unknown
<i>Prays fraxinella</i>	Ash Bud Moth	Yponomeutidae	Migrant
<i>Ypsolopha dentella</i>	Honeysuckle Moth	Yponomeutidae	Unknown
<i>Ypsolopha scabrella</i>	a small ermine moth	Yponomeutidae	Unknown
<i>Ypsolopha parenthesesella</i>	a small ermine moth	Yponomeutidae	Common
<i>Plutella xylostella</i>	Diamond Backed Moth	Yponomeutidae	Migrant
<i>Orthotaelia sparganella</i>	a small ermine moth	Yponomeutidae	Local
<i>Acrolepia autumnitella</i>	a small ermine moth	Yponomeutidae	Unknown
<i>Schreckensteinia festaliella</i>	a micro-moth	Schreckensteiniidae	Unknown
<i>Coleophora frischella</i>	Small Clover Case-bearer	Coleophoridae	Notable/Nb
<i>Coleophora penella</i>	a micro-moth	Coleophoridae	Local
<i>Coleophora galbulipennella</i>	a micro-moth	Coleophoridae	pRDB 1
<i>Coleophora asteris</i>	a micro-moth	Coleophoridae	Unknown
<i>Coleophora salinella</i>	a micro-moth	Coleophoridae	Unknown
<i>Coleophora glaucicolella</i>	a micro-moth	Coleophoridae	Unknown
<i>Coleophora alticolella</i>	a micro-moth	Coleophoridae	Unknown
<i>Elachista rufocinerea</i>	a micro-moth	Elachistidae	Unknown
<i>Batia lunaris</i>	a micro-moth	Oecophoridae	Local
<i>Batia unitella</i>	a micro-moth	Oecophoridae	Local
<i>Hofmannophila pseudospretella</i>	Brown House Moth	Oecophoridae	Common
<i>Endrosis sarcitrella</i>	White-shouldered House Moth	Oecophoridae	Common
<i>Esperia sulphurella</i>	a micro-moth	Oecophoridae	Common
<i>Alabonia geoffrella</i>	a micro-moth	Oecophoridae	Common
<i>Carcina quercana</i>	a micro-moth	Oecophoridae	Common
<i>Diurnea fagella</i>	a micro-moth	Oecophoridae	Unknown
<i>Depressaria pastinacella</i>	Parsnip Moth	Oecophoridae	Common
<i>Agonopteryx purpurea</i>	a micro-moth	Oecophoridae	Unknown
<i>Agonopteryx alstroemeriana</i>	a micro-moth	Oecophoridae	Unknown

<i>Agonopterix arenella</i>	a micro-moth	Oecophoridae	Common
<i>Agonopterix nervosa</i>	a micro-moth	Oecophoridae	Local
<i>Ethmia terminella</i>	a micro-moth	Ethmiidae	pRDB2
<i>Ethmia bipunctella</i>	a micro-moth	Ethmiidae	pRDB2
<i>Metzneria lappella</i>	a micro-moth	Gelechiidae	Local
<i>Eulamprotes wilkella</i>	a micro-moth	Gelechiidae	Notable/Nb
<i>Monochroa lucidella</i>	a micro-moth	Gelechiidae	Local
<i>Monochroa palustrella</i>	a micro-moth	Gelechiidae	Notable/Nb
<i>Aristotelia brizella</i>	a micro-moth	Gelechiidae	Notable/Nb
<i>Athrips mouffetella</i>	a micro-moth	Gelechiidae	Unknown
<i>Teleiodes wague</i>	a micro-moth	Gelechiidae	pRDBK
<i>Teleiopsis diffinis</i>	a micro-moth	Gelechiidae	Common
<i>Bryotropha terrella</i>	a micro-moth	Gelechiidae	Local
<i>Chionodes fumatella</i>	a micro-moth	Gelechiidae	Local
<i>Aroga velocella</i>	a micro-moth	Gelechiidae	Local
<i>Neofriseria peliella</i>	a micro-moth	Gelechiidae	RDB I
<i>Gelechia hippophaella</i>	a micro-moth	Gelechiidae	pRDB3
<i>Scrobipalpa suaedella</i>	a micro-moth	Gelechiidae	Notable/Nb
<i>Scrobipalpa salinella</i>	a micro-moth	Gelechiidae	Notable/Nb
<i>Scrobipalpa ocellatella</i>	Beet Moth	Gelechiidae	Notable/Nb
<i>Scrobipalpa costella</i>	a micro-moth	Gelechiidae	Local
<i>Caryocolum fraternella</i>	a micro-moth	Gelechiidae	Local
<i>Syncopacma larseniella</i>	a micro-moth	Gelechiidae	Local
<i>Brachmia rufescens</i>	a micro-moth	Gelechiidae	Local
<i>Oegoconia deauratella</i>	a micro-moth	Gelechiidae	Local
<i>Oegoconia caradjai</i>	a micro-moth	Gelechiidae	Notable/Nb
<i>Blastobasis lignea</i>	a micro-moth	Blastobasidae	Local
<i>Blastobasis decolorella</i>	a micro-moth	Blastobasidae	Local
<i>Mompha raschkiella</i>	a micro-moth	Momphidae	Unknown
<i>Mompha ochraceella</i>	a micro-moth	Momphidae	Local
<i>Mompha epilobiella</i>	a micro-moth	Momphidae	Unknown
<i>Limnaecia phragmitella</i>	a micro-moth	Momphidae	Unknown
<i>Cochlymorpha straminea</i>	a micro-moth	Cochylidae	Local
<i>Agapeta hamana</i>	a micro-moth	Cochylidae	Common
<i>Agapeta zoegana</i>	a micro-moth	Cochylidae	Local
<i>Aethes cnicana</i>	a micro-moth	Cochylidae	Unknown
<i>Aethes smeathmanniana</i>	a micro-moth	Cochylidae	Local
<i>Aethes francillana</i>	a micro-moth	Cochylidae	Unknown
<i>Eupoecilia angustana</i>	a micro-moth	Cochylidae	Local
<i>Cochylidia implicitana</i>	a micro-moth	Cochylidae	Unknown
<i>Cochylis roseana</i>	a micro-moth	Cochylidae	Unknown
<i>Cochylis hybridella</i>	a micro-moth	Cochylidae	Unknown
<i>Cochylis atricapitana</i>	a micro-moth	Cochylidae	Common
<i>Pandemis heparana</i>	Dark Fruit-tree Tortrix	Tortricidae	Common
<i>Archips podana</i>	Large Fruit-tree Tortrix	Tortricidae	Common
<i>Archips xylosteana</i>	Variegated Golden Tortrix	Tortricidae	Common
<i>Cacoecimorpha pronubana</i>	Carnation Tortrix	Tortricidae	Local
<i>Syndemis musculana</i>	a tortrix moth	Tortricidae	Common
<i>Ptycholomoides aeriferanus</i>	a tortrix moth	Tortricidae	Unknown

<i>Aphelia paleana</i>	Timothy Tortrix	Tortricidae	Unknown
<i>Clepsia spectrana</i>	a tortrix moth	Tortricidae	Common
<i>Clepsia consimilana</i>	a tortrix moth	Tortricidae	Common
<i>Epiphyas postvittana</i>	Light Brown Apple Moth	Tortricidae	Unknown
<i>Adoxyphyes orana</i>	Summer Fruit Tortrix	Tortricidae	Notable/Nb
<i>Lozotaeniodes formosanus</i>	a tortrix moth	Tortricidae	Local
<i>Lozotaenia forsterana</i>	a tortrix moth	Tortricidae	Local
<i>Philedone gerningana</i>	a tortrix moth	Tortricidae	Unknown
<i>Ditula angustiorana</i>	Red-barred Tortrix	Tortricidae	Common
<i>Pseudargyrotoza conwagana</i>	a tortrix moth	Tortricidae	Common
<i>Eulia ministrana</i>	a tortrix moth	Tortricidae	Common
<i>Cnephasia longana</i>	a tortrix moth	Tortricidae	Local
<i>Cnephasia stephensiana</i>	Grey Tortrix	Tortricidae	Common
<i>Tortricodes alternella</i>	a tortrix moth	Tortricidae	Unknown
<i>Aleimma loeflingiana</i>	a tortrix moth	Tortricidae	Common
<i>Tortrix viridana</i>	Green Oak Tortrix	Tortricidae	Common
<i>Spatalistis bifasciana</i>	a tortrix moth	Tortricidae	Notable/Nb
<i>Croesia bergmanniana</i>	a tortrix moth	Tortricidae	Unknown
<i>Croesia forsskaleana</i>	a tortrix moth	Tortricidae	Unknown
<i>Croesia holmiana</i>	a tortrix moth	Tortricidae	Unknown
<i>Acleris rhombana</i>	Rhomboid Tortrix	Tortricidae	Unknown
<i>Acleris aspersana</i>	a tortrix moth	Tortricidae	Common
<i>Acleris notana</i>	a tortrix moth	Tortricidae	Unknown
<i>Acleris variegana</i>	Garden Rose Tortrix	Tortricidae	Common
<i>Acleris hastiana</i>	a tortrix moth	Tortricidae	Local
<i>Acleris cristana</i>	a tortrix moth	Tortricidae	Local
<i>Celypha rosaceana</i>	a tortrix moth	Tortricidae	Unknown
<i>Olethreutes cespitana</i>	a tortrix moth	Tortricidae	Local
<i>Olethreutes lacunana</i>	a tortrix moth	Tortricidae	Common
<i>Hedya pruniana</i>	Plum Tortrix	Tortricidae	Common
<i>Hedya dimidioalba</i>	Marbled Orchard Tortrix	Tortricidae	Common
<i>Lobesia abscisana</i>	a tortrix moth	Tortricidae	Unknown
<i>Bactra lancealana</i>	a tortrix moth	Tortricidae	Common
<i>Bactra robustana</i>	a tortrix moth	Tortricidae	Notable/Nb
<i>Ancylis geminana</i>	a tortrix moth	Tortricidae	Unknown
<i>Ancylis badiana</i>	a tortrix moth	Tortricidae	Unknown
<i>Epinotia nisella</i>	a tortrix moth	Tortricidae	Local
<i>Epinotia caprana</i>	a tortrix moth	Tortricidae	Common
<i>Epinotia brunnichana</i>	a tortrix moth	Tortricidae	Local
<i>Rhopobota naevana</i>	Holly Tortrix	Tortricidae	Unknown
<i>Epiblema cynosbatella</i>	a tortrix moth	Tortricidae	Common
<i>Epiblema uddmanniana</i>	Bramble Shoot Moth	Tortricidae	Common
<i>Epiblema roborana</i>	a tortrix moth	Tortricidae	Unknown
<i>Epiblema foenella</i>	a tortrix moth	Tortricidae	Local
<i>Epiblema scutulana</i>	a tortrix moth	Tortricidae	Common
<i>Eucosma tripoliana</i>	a tortrix moth	Tortricidae	Unknown
<i>Eucosma maritima</i>	a tortrix moth	Tortricidae	pRDB3
<i>Eucosma metzneriana</i>	a tortrix moth	Tortricidae	Vagrant/Accidental
<i>Eucosma campoliliana</i>	a tortrix moth	Tortricidae	Common

<i>Eucosma hohenwartiana</i>	a tortrix moth	Tortricidae	Unknown
<i>Eucosma cana</i>	a tortrix moth	Tortricidae	Common
<i>Eucosma obumbratana</i>	a tortrix moth	Tortricidae	Unknown
<i>Thiodia citrana</i>	a tortrix moth	Tortricidae	Local
<i>Spilonota ocellana</i>	Bud Moth	Tortricidae	Common
<i>Cydia splendana</i>	a tortrix moth	Tortricidae	Common
<i>Cydia pomonella</i>	Codling Moth	Tortricidae	Common
<i>Cydia aurana</i>	a tortrix moth	Tortricidae	Unknown
<i>Dichrorampha sequana</i>	a tortrix moth	Tortricidae	Local
<i>Dichrorampha acuminatana</i>	a tortrix moth	Tortricidae	Unknown
<i>Alucita hexadactyla</i>	Twenty-plume Moth	Alucitidae	Common
<i>Euchromius ocella</i>	a pyralid moth	Pyralidae	Migrant
<i>Chilo phragmitella</i>	a pyralid moth	Pyralidae	Local
<i>Calamotropha paludella</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Chrysoteuchia culmella</i>	Garden Grass-veneer	Pyralidae	Common
<i>Crambus pascuella</i>	a pyralid moth	Pyralidae	Common
<i>Crambus lathoniellus</i>	a pyralid moth	Pyralidae	Common
<i>Crambus perlella</i>	a pyralid moth	Pyralidae	Common
<i>Agriphila selasella</i>	a pyralid moth	Pyralidae	Local
<i>Agriphila straminella</i>	a pyralid moth	Pyralidae	Common
<i>Agriphila tristella</i>	a pyralid moth	Pyralidae	Common
<i>Agriphila inquinatella</i>	a pyralid moth	Pyralidae	Common
<i>Agriphila latistria</i>	a pyralid moth	Pyralidae	Local
<i>Agriphila geniculea</i>	a pyralid moth	Pyralidae	Common
<i>Catoptria pinella</i>	a pyralid moth	Pyralidae	Local
<i>Catoptria falsella</i>	a pyralid moth	Pyralidae	Local
<i>Pediasia contaminella</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Pediasia aridella</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Platytes alpinella</i>	a pyralid moth	Pyralidae	pRDB3
<i>Platytes cerussella</i>	a pyralid moth	Pyralidae	Local
<i>Schoenobius gigantella</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Schoenobius forficella</i>	a pyralid moth	Pyralidae	Local
<i>Donacaula mucronellus</i>	a pyralid moth	Pyralidae	Local
<i>Acentria nivea</i>	Water Veneer	Pyralidae	Common
<i>Scoparia subfusca</i>	a pyralid moth	Pyralidae	Common
<i>Scoparia pyralella</i>	a pyralid moth	Pyralidae	Common
<i>Scoparia ambigualis</i>	a pyralid moth	Pyralidae	Common
<i>Eudonia pallida</i>	a pyralid moth	Pyralidae	Local
<i>Eudonia lacustrata</i>	a pyralid moth	Pyralidae	Unknown
<i>Eudonia truncicolella</i>	a pyralid moth	Pyralidae	Common
<i>Eudonia lineola</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Eudonia angustea</i>	a pyralid moth	Pyralidae	Common
<i>Eudonia mercurella</i>	a pyralid moth	Pyralidae	Common
<i>Nymphula nymphaeata</i>	Brown China-mark	Pyralidae	Common
<i>Parapoynx stratiotata</i>	Ringed China-mark	Pyralidae	Common
<i>Nymphula stagnata</i>	Beautiful China Mark	Pyralidae	Common
<i>Cataclysta lemnata</i>	Small China-mark	Pyralidae	Common
<i>Evergestis forficalis</i>	Garden Pebble	Pyralidae	Common
<i>Evergestis extimalis</i>	a pyralid moth	Pyralidae	Notable/Nb

<i>Evergestis pallidata</i>	a pyralid moth	Pyralidae	Local
<i>Cynaeda dentalis</i>	a pyralid moth	Pyralidae	pRDB3
<i>Pyrausta aurata</i>	a pyralid moth	Pyralidae	Local
<i>Pyrausta purpuralis</i>	a pyralid moth	Pyralidae	Local
<i>Pyrausta ostrinalis</i>	a pyralid moth	Pyralidae	Local
<i>Pyrausta cespitalis</i>	a pyralid moth	Pyralidae	Local
<i>Margaritia sticticalis</i>	a pyralid moth	Pyralidae	Appendix (extinct)
<i>Sitochroa palealis</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Sitochroa verticalis</i>	a pyralid moth	Pyralidae	Local
<i>Ostrinia nubilalis</i>	European Corn Borer	Pyralidae	Local
<i>Eurrhyncha hortulata</i>	Small Magpie	Pyralidae	Common
<i>Eurrhyncha lancealis</i>	a pyralid moth	Pyralidae	Common
<i>Eurrhyncha coronata</i>	a pyralid moth	Pyralidae	Unknown
<i>Phlyctaenia perlucidalis</i>	a pyralid moth	Pyralidae	Local
<i>Anania verbascalis</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Phlyctaenia stachydalis</i>	a pyralid moth	Pyralidae	pRDBK
<i>Ebulea crocealis</i>	a pyralid moth	Pyralidae	Common
<i>Udea lutealis</i>	a pyralid moth	Pyralidae	Common
<i>Udea prunalis</i>	a pyralid moth	Pyralidae	Common
<i>Udea olivalis</i>	a pyralid moth	Pyralidae	Common
<i>Udea ferrugalis</i>	a pyralid moth	Pyralidae	Migrant
<i>Nomophila noctuella</i>	Rush Veneer	Pyralidae	Migrant
<i>Dolicarthria punctalis</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Diasemiopsis ramburialis</i>	a pyralid moth	Pyralidae	Migrant
<i>Hymenia recurvalis</i>	a pyralid moth	Pyralidae	Migrant
<i>Pleuroptya ruralis</i>	Mother of Pearl	Pyralidae	Common
<i>Palpita unionalis</i>	a pyralid moth	Pyralidae	Migrant
<i>Hypsopygia costalis</i>	Gold Triangle	Pyralidae	Common
<i>Synaphe punctalis</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Orthopygia glaucinalis</i>	a pyralid moth	Pyralidae	Common
<i>Pyralis farinalis</i>	Meal Moth	Pyralidae	Common
<i>Aglossa pingualis</i>	Large Tabby	Pyralidae	Local
<i>Endotricha flammealis</i>	a pyralid moth	Pyralidae	Common
<i>Galleria mellonella</i>	Wax Moth	Pyralidae	Local
<i>Aphomia sociella</i>	Bee Moth	Pyralidae	Common
<i>Melissoblastes zelleri</i>	a pyralid moth	Pyralidae	pRDB3
<i>Anerastia lotella</i>	a pyralid moth	Pyralidae	Local
<i>Acrobasis repandana</i>	a pyralid moth	Pyralidae	Common
<i>Acrobasis consociella</i>	a pyralid moth	Pyralidae	Common
<i>Eurhodope suavella</i>	a pyralid moth	Pyralidae	Unknown
<i>Eurhodope advenella</i>	a pyralid moth	Pyralidae	Local
<i>Eurhodope marmorea</i>	a pyralid moth	Pyralidae	Local
<i>Oncocera semirubella</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Pempelia genistella</i>	a pyralid moth	Pyralidae	Na
<i>Oncocera formosa</i>	a pyralid moth	Pyralidae	Local
<i>Phycita roborella</i>	a pyralid moth	Pyralidae	Common
<i>Phycitodes saxicola</i>	a pyralid moth	Pyralidae	Local
<i>Dioryctria abietella</i>	a pyralid moth	Pyralidae	Naturalised alien
<i>Myelois cribrella</i>	Thistle Ermine	Pyralidae	Local

<i>Gymnancyla canella</i>	a pyralid moth	Pyralidae	Na
<i>Alipsa angustella</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Ancylosis oblitella</i>	a pyralid moth	Pyralidae	Notable/Nb
<i>Euzophera pinguis</i>	a pyralid moth	Pyralidae	Local
<i>Ephestia parasitella</i>	a pyralid moth	Pyralidae	Local
<i>Homoeosoma sinuella</i>	a pyralid moth	Pyralidae	Local
<i>Phycitodes binaevella</i>	a pyralid moth	Pyralidae	Local
<i>Phycitodes maritima</i>	a pyralid moth	Pyralidae	Local
<i>Oxyptilus parvidactylus</i>	a plume moth	Pterophoridae	Local
<i>Crombrugghia distans</i>	a plume moth	Pterophoridae	Notable/Nb
<i>Capperia britanniodactyla</i>	a plume moth	Pterophoridae	Notable/Nb
<i>Amblyptilia punctidactyla</i>	a plume moth	Pterophoridae	Unknown
<i>Platyptilia gonodactyla</i>	a plume moth	Pterophoridae	Unknown
<i>Stenoptilia zophodactylus</i>	a plume moth	Pterophoridae	Local
<i>Stenoptilia pterodactyla</i>	a plume moth	Pterophoridae	Unknown
<i>Pterophorus pentadactyla</i>	White Plume Moth	Pterophoridae	Local
<i>Pterophorus galactodactyla</i>	a plume moth	Pterophoridae	Unknown
<i>Pterophorus spilodactylus</i>	a plume moth	Pterophoridae	pRDB2
<i>Adaina microdactyla</i>	a plume moth	Pterophoridae	Local
<i>Oidaematophorus lithodactyla</i>	a plume moth	Pterophoridae	Unknown
<i>Emmelina monodactyla</i>	a plume moth	Pterophoridae	Common
<i>Thymelicus sylvestris</i>	Small Skipper	Hesperiidae	Common
<i>Thymelicus lineola</i>	Essex Skipper	Hesperiidae	Local
<i>Ochlodes venata</i>	Large Skipper	Hesperiidae	Common
<i>Erynnis tages</i>	Dingy Skipper	Hesperiidae	Local
<i>Pyrgus malvae</i>	Grizzled Skipper	Hesperiidae	Local
<i>Papilio machaon</i>	Swallowtail	Papilionidae	RDB2
<i>Colias hyale</i>	Pale Clouded Yellow	Pieridae	Migrant
<i>Colias croceus</i>	Clouded Yellow	Pieridae	Migrant
<i>Gonepteryx rhamni</i>	Brimstone	Pieridae	Common
<i>Pieris brassicae</i>	Large White	Pieridae	Common
<i>Pieris rapae</i>	Small White	Pieridae	Common
<i>Pieris napi</i>	Green-veined White	Pieridae	Common
<i>Anthocharis cardamines</i>	Orange Tip	Pieridae	Common
<i>Callophrys rubi</i>	Green Hairstreak	Lycaenidae	Local
<i>Celastrina argiolus</i>	Holly Blue	Lycaenidae	Local
<i>Quercusia quercus</i>	Purple Hairstreak	Lycaenidae	Local
<i>Lycaena phlaeas</i>	Small Copper	Lycaenidae	Common
<i>Aricia agestis</i>	Brown Argus	Lycaenidae	Local
<i>Polyommatus icarus</i>	Common Blue	Lycaenidae	Common
<i>Lysandra coridon</i>	Chalk-hill Blue	Lycaenidae	Local
<i>Ladoga camilla</i>	White Admiral	Nymphalidae	Local
<i>Vanessa atalanta</i>	Red Admiral	Nymphalidae	Migrant
<i>Cynthia cardui</i>	Painted Lady	Nymphalidae	Migrant
<i>Aglais urticae</i>	Small Tortoiseshell	Nymphalidae	Common
<i>Inachis io</i>	Peacock	Nymphalidae	Common
<i>Polygonia c-album</i>	Comma	Nymphalidae	Common
<i>Boloria euphrosyne</i>	Pearl Bordered Fritillary	Nymphalidae	Notable/Nb
<i>Argynnis aglaja</i>	Dark Green Fritillary	Nymphalidae	Local

<i>Argynnis paphia</i>	Silver-washed Fritillary	Nymphalidae	Local
<i>Pararge aegeria</i>	Speckled Wood	Satyridae	Common
<i>Lasiommata megera</i>	Wall	Satyridae	Common
<i>Melanargia galathea serena</i>	Marbled White	Satyridae	Local
<i>Pyronia tithonus</i>	Gatekeeper	Satyridae	Common
<i>Maniola jurtina</i>	Meadow Brown	Satyridae	Common
<i>Coenonympha pamphilus</i>	Small Heath	Satyridae	Common
<i>Aphantopus hyperantus</i>	Ringlet	Satyridae	Common
<i>Poecilocampa populi</i>	December Moth	Lasiocampidae	Common
<i>Malacosoma neustria</i>	Lackey	Lasiocampidae	Common
<i>Lasiocampa trifolii</i>	Grass Eggar	Lasiocampidae	Local
<i>Lasiocampa quercus</i>	Oak Eggar	Lasiocampidae	Local
<i>Euthrix potatoria</i>	Drinker	Lasiocampidae	Common
<i>Gastropacha quercifolia</i>	Lappet	Lasiocampidae	Common
<i>Falcaria lacertinaria</i>	Scalloped Hook-tip	Drepanidae	Common
<i>Drepana binaria</i>	Oak Hook-tip	Drepanidae	Common
<i>Drepana cultraria</i>	Barred Hook-tip	Drepanidae	Local
<i>Drepana falcataria</i>	Pebble Hook-tip	Drepanidae	Common
<i>Cilix glaucata</i>	Chinese Character	Drepanidae	Common
<i>Thyatira batis</i>	Peach Blossom	Thyatiridae	Common
<i>Habrosyne pyritoides</i>	Buff Arches	Thyatiridae	Common
<i>Tethea ocularis</i>	Figure of Eighty	Thyatiridae	Common
<i>Tethea or</i>	Poplar Lutestring	Thyatiridae	Local
<i>Tetheella fluctuosa</i>	Satin Lutestring	Thyatiridae	Notable/Nb
<i>Ochropacha duplaris</i>	Common Lutestring	Thyatiridae	Common
<i>Cymatophorima diluta</i>	Oak Lutestring	Thyatiridae	Local
<i>Achlya flavicornis</i>	Yellow Horned	Thyatiridae	Common
<i>Polyploca ridens</i>	Frosted Green	Thyatiridae	Local
<i>Archiearis parthenias</i>	Orange Underwing	Geometridae	Local
<i>Alsophila aescularia</i>	March Moth	Geometridae	Common
<i>Aplasta ononaria</i>	Rest Harrow	Geometridae	RDB3
<i>Pseudoterpna pruinata</i>	Grass Emerald	Geometridae	Common
<i>Geometra papilionaria</i>	Large Emerald	Geometridae	Common
<i>Hemithea aestivaria</i>	Common Emerald	Geometridae	Common
<i>Hemistola chrysoprasaria</i>	Small Emerald	Geometridae	Local
<i>Jodis lactearia</i>	Little Emerald	Geometridae	Common
<i>Cyclophora albipunctata</i>	Birch Mocha	Geometridae	Local
<i>Cyclophora punctaria</i>	Maiden's Blush	Geometridae	Local
<i>Cyclophora linearia</i>	Clay Triple-lines	Geometridae	Local
<i>Timandra griseata</i>	Blood-vein	Geometridae	Common
<i>Scopula nigropunctata</i>	Sub-angled Wave	Geometridae	RDB2
<i>Scopula marginepunctata</i>	Mullein Wave	Geometridae	Local
<i>Scopula imitaria</i>	Small Blood-vein	Geometridae	Common
<i>Scopula emutaria</i>	Rosy Wave	Geometridae	Notable/Nb
<i>Scopula floslactata</i>	Cream Wave	Geometridae	Local
<i>Idaea ochrata</i>	Bright Wave	Geometridae	RDB2
<i>Idaea vulpinaria</i>	Least Carpet	Geometridae	Notable/Nb
<i>Idaea biselata</i>	Small Fan-footed Wave	Geometridae	Common
<i>Idaea fuscovenosa</i>	Dwarf Cream Wave	Geometridae	Local

<i>Idaea seriata</i>	Small Dusty Wave	Geometridae	Common
<i>Idaea dimidiata</i>	Single-dotted Wave	Geometridae	Common
<i>Idaea subsericeata</i>	Satin Wave	Geometridae	Common
<i>Idaea trigeminata</i>	Treble Brown Spot	Geometridae	Local
<i>Idaea emarginata</i>	Small Scallop	Geometridae	Local
<i>Idaea aversata</i>	Riband Wave	Geometridae	Common
<i>Idaea straminata</i>	Plain Wave	Geometridae	Local
<i>Rhodometra sacraria</i>	Vestal	Geometridae	Migrant
<i>Phibalapteryx virgata</i>	Oblique Striped	Geometridae	Notable/Nb
<i>Orthonama vittata</i>	Oblique Carpet	Geometridae	Local
<i>Orthonama obstipata</i>	Gem	Geometridae	Migrant
<i>Xanthorhoe designata</i>	Flame Carpet	Geometridae	Common
<i>Xanthorhoe spadicearia</i>	Red Twin-spot Carpet	Geometridae	Common
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet	Geometridae	Common
<i>Xanthorhoe montanata</i>	Silver-ground Carpet	Geometridae	Common
<i>Xanthorhoe fluctuata</i>	Garden Carpet	Geometridae	Common
<i>Scotopteryx chenopodiata</i>	Shaded Broad-bar	Geometridae	Common
<i>Scotopteryx luridata</i>	July Belle	Geometridae	Common
<i>Catarhoe rubidata</i>	Ruddy Carpet	Geometridae	Notable/Nb
<i>Catarhoe cuculata</i>	Royal Mantle	Geometridae	Local
<i>Epirrhoe alternata</i>	Common Carpet	Geometridae	Common
<i>Epirrhoe rivata</i>	Wood Carpet	Geometridae	Local
<i>Epirrhoe galiata</i>	Galium Carpet	Geometridae	Local
<i>Camptogramma bilineata</i>	Yellow Shell	Geometridae	Common
<i>Larentia clavaria</i>	Mallow	Geometridae	Common
<i>Anticlea badiata</i>	Shoulder Stripe	Geometridae	Common
<i>Anticlea derivata</i>	Streamer	Geometridae	Common
<i>Mesoleuca albicillata</i>	Beautiful Carpet	Geometridae	Common
<i>Pelurga comitata</i>	Dark Spinach	Geometridae	Common
<i>Lampropteryx suffumata</i>	Water Carpet	Geometridae	Common
<i>Cosmorhoe ocellata</i>	Purple Bar	Geometridae	Common
<i>Eulithis prunata</i>	Phoenix	Geometridae	Common
<i>Eulithis testata</i>	Chevron	Geometridae	Common
<i>Eulithis mellinata</i>	Spinach	Geometridae	Common
<i>Eulithis pyraliata</i>	Barred Straw	Geometridae	Common
<i>Ecliptopera silaceata</i>	Small Phoenix	Geometridae	Common
<i>Chloroclysta siterata</i>	Red-green Carpet	Geometridae	Common
<i>Chloroclysta citrata</i>	Dark Marbled Carpet	Geometridae	Common
<i>Chloroclysta truncata</i>	Common Marbled Carpet	Geometridae	Common
<i>Cidaria fulvata</i>	Barred Yellow	Geometridae	Common
<i>Plemyria rubiginata</i>	Blue-bordered Carpet	Geometridae	Common
<i>Thera firmata</i>	Pine Carpet	Geometridae	Common
<i>Thera obeliscata</i>	Grey Pine Carpet	Geometridae	Common
<i>Thera britannica</i>	Spruce Carpet	Geometridae	Common
<i>Electrophaes corylata</i>	Broken-barred Carpet	Geometridae	Common
<i>Colostygia pectinataria</i>	Green Carpet	Geometridae	Common
<i>Hydriomena furcata</i>	July Highflyer	Geometridae	Common
<i>Hydriomena impluviata</i>	May Highflyer	Geometridae	Common
<i>Horisme vitalbata</i>	Small Waved Umber	Geometridae	Common

<i>Horisme tersata</i>	The Fern	Geometridae	Common
<i>Melanthia procellata</i>	Pretty Chalk Carpet	Geometridae	Common
<i>Spargania luctuata</i>	White-banded Carpet	Geometridae	Na
<i>Rheumaptera cervinalis</i>	Scarce Tissue	Geometridae	Local
<i>Rheumaptera undulata</i>	Scallop Shell	Geometridae	Local
<i>Euphyia biangulata</i>	Cloaked Carpet	Geometridae	Notable/Nb
<i>Euphyia unangulata</i>	Sharp-angled Carpet	Geometridae	Local
<i>Epirrita dilutata</i>	November Moth	Geometridae	Common
<i>Operophtera brumata</i>	Winter Moth	Geometridae	Common
<i>Perizoma affinitata</i>	Rivulet	Geometridae	Common
<i>Perizoma alchemillata</i>	Small Rivulet	Geometridae	Common
<i>Perizoma flavofasciata</i>	Sandy Carpet	Geometridae	Common
<i>Perizoma didymata</i>	Twin-spot Carpet	Geometridae	Common
<i>Eupithecia inturbata</i>	Maple Pug	Geometridae	Local
<i>Eupithecia haworthiata</i>	Haworth's Pug	Geometridae	Local
<i>Eupithecia linariata</i>	Toadflax Pug	Geometridae	Common
<i>Eupithecia pulchellata</i>	Foxglove Pug	Geometridae	Common
<i>Eupithecia exiguata</i>	Mottled Pug	Geometridae	Common
<i>Eupithecia insigniata</i>	Pinion-spotted Pug	Geometridae	Notable/Nb
<i>Eupithecia centaureata</i>	Lime-speck Pug	Geometridae	Common
<i>Eupithecia intricata</i>	Freyer's Pug	Geometridae	Unknown
<i>Eupithecia absinthiata</i>	Wormwood Pug	Geometridae	Common
<i>Eupithecia assimilata</i>	Currant Pug	Geometridae	Common
<i>Eupithecia vulgata</i>	Common Pug	Geometridae	Common
<i>Eupithecia tripunctaria</i>	White-spotted Pug	Geometridae	Local
<i>Eupithecia subfuscata</i>	Grey Pug	Geometridae	Common
<i>Eupithecia icterata</i>	Tawny-speckled Pug	Geometridae	Common
<i>Eupithecia succenturiata</i>	Bordered Pug	Geometridae	Common
<i>Eupithecia subumbrata</i>	Shaded Pug	Geometridae	Local
<i>Eupithecia millefoliata</i>	Yarrow Pug	Geometridae	Notable/Nb
<i>Eupithecia simpliciatata</i>	Plain Pug	Geometridae	Local
<i>Eupithecia fraxinata</i>	Ash Pug	Geometridae	Local
<i>Eupithecia abbreviata</i>	Brindled Pug	Geometridae	Common
<i>Eupithecia dodoneata</i>	Oak-tree Pug	Geometridae	Common
<i>Eupithecia pusillata</i>	Juniper Pug	Geometridae	Local
<i>Eupithecia phoeniceata</i>	Cypress Pug	Geometridae	Naturalised alien
<i>Eupithecia lariciata</i>	Larch Pug	Geometridae	Local
<i>Eupithecia tantillaria</i>	Dwarf Pug	Geometridae	Local
<i>Chloroclystis v-ata</i>	V-Pug	Geometridae	Common
<i>Chloroclystis rectangulata</i>	Green Pug	Geometridae	Common
<i>Gymnoscelis rufifasciata</i>	Double-striped Pug	Geometridae	Common
<i>Chesias legatella</i>	Streak	Geometridae	Common
<i>Aplocera efformata</i>	Lesser Treble-bar	Geometridae	Common
<i>Euchoeca nebulata</i>	Dingy Shell	Geometridae	Local
<i>Asthena albulata</i>	Small White Wave	Geometridae	Common
<i>Hydrelia flammeolaria</i>	Small Yellow Wave	Geometridae	Common
<i>Hydrelia sylvata</i>	Waved Carpet	Geometridae	Notable/Nb
<i>Trichopteryx carpinata</i>	Early Tooth-striped	Geometridae	Common
<i>Acasis viretata</i>	Yellow-barred Brindle	Geometridae	Local

<i>Abraxas grossulariata</i>	Magpie Moth	Geometridae	Common
<i>Abraxas sylvata</i>	Clouded Magpie	Geometridae	Local
<i>Lomaspilis marginata</i>	Clouded Border	Geometridae	Common
<i>Ligdia adustata</i>	Scorched Carpet	Geometridae	Local
<i>Semiothisa notata</i>	Peacock Moth	Geometridae	Local
<i>Semiothisa alternaria</i>	Sharp-angled Peacock	Geometridae	Local
<i>Semiothisa liturata</i>	Tawny-barred Angle	Geometridae	Common
<i>Semiothisa clathrata</i>	Latticed Heath	Geometridae	Common
<i>Semiothisa wauaria</i>	V-Moth	Geometridae	Local
<i>Petrophora chlorosata</i>	Brown Silver-line	Geometridae	Common
<i>Plagodis pulveraria</i>	Barred Umber	Geometridae	Local
<i>Plagodis dolabraria</i>	Scorched Wing	Geometridae	Local
<i>Opisthograptis luteolata</i>	Brimstone Moth	Geometridae	Common
<i>Epione repandaria</i>	Bordered Beauty	Geometridae	Local
<i>Pseudopanthera macularia</i>	Speckled Yellow	Geometridae	Common
<i>Apeira syringaria</i>	Lilac Beauty	Geometridae	Local
<i>Ennomos autumnaria</i>	Large Thorn	Geometridae	Notable/Nb
<i>Ennomos quercinaria</i>	August Thorn	Geometridae	Local
<i>Ennomos alniaria</i>	Canary-shouldered Thorn	Geometridae	Common
<i>Ennomos fuscantaria</i>	Dusky Thorn	Geometridae	Common
<i>Ennomos erosaria</i>	September Thorn	Geometridae	Local
<i>Selenia dentaria</i>	Early Thorn	Geometridae	Common
<i>Selenia lunularia</i>	Lunar Thorn	Geometridae	Local
<i>Selenia tetralunaria</i>	Purple Thorn	Geometridae	Common
<i>Odontopera bidentata</i>	Scalloped Hazel	Geometridae	Common
<i>Crocallis elinguararia</i>	Scalloped Oak	Geometridae	Common
<i>Ourapteryx sambucaria</i>	Swallow-tailed Moth	Geometridae	Common
<i>Colotois pennaria</i>	Feathered Thorn	Geometridae	Common
<i>Apocheima hispidaria</i>	Small Brindled Beauty	Geometridae	Local
<i>Apocheima pilosaria</i>	Pale Brindled Beauty	Geometridae	Common
<i>Lycia hirtaria</i>	Brindled Beauty	Geometridae	Common
<i>Biston strataria</i>	Oak Beauty	Geometridae	Common
<i>Biston betularia</i>	Peppered Moth	Geometridae	Common
<i>Agriopsis leucophaearia</i>	Spring Usher	Geometridae	Common
<i>Agriopsis aurantaria</i>	Scarce Umber	Geometridae	Common
<i>Agriopsis marginaria</i>	Dotted Border	Geometridae	Common
<i>Erannis defoliaria</i>	Mottled Umber	Geometridae	Common
<i>Menophra abruptaria</i>	Waved Umber	Geometridae	Common
<i>Peribatodes rhomboidaria</i>	Willow Beauty	Geometridae	Common
<i>Alcis repandata</i>	Mottled Beauty	Geometridae	Common
<i>Serraca punctinalis</i>	Pale Oak Beauty	Geometridae	Common
<i>Ectropis bistortata</i>	Engrailed	Geometridae	Common
<i>Ectropis crepuscularia</i>	Small Engrailed	Geometridae	Local
<i>Paradarisa consonaria</i>	Square Spot	Geometridae	Local
<i>Paradarisa extersaria</i>	Brindled White-spot	Geometridae	Local
<i>Aethalura punctulata</i>	Grey Birch	Geometridae	Common
<i>Bupalus piniaria</i>	Bordered White	Geometridae	Common
<i>Cabera pusaria</i>	Common White Wave	Geometridae	Common
<i>Cabera exanthemata</i>	Common Wave	Geometridae	Common

<i>Lomographa bimaculata</i>	White-pinion Spotted	Geometridae	Common
<i>Lomographa temerata</i>	Clouded Silver	Geometridae	Common
<i>Theria primaria</i>	Early Moth	Geometridae	Common
<i>Campaea margaritata</i>	Light Emerald	Geometridae	Common
<i>Hylaea fasciaria</i>	Barred Red	Geometridae	Common
<i>Aspitates ochrearia</i>	Yellow Belle	Geometridae	Local
<i>Agrius convolvuli</i>	Convolvulus Hawk-moth	Sphingidae	Migrant
<i>Acherontia atropos</i>	Death's Head Hawk-moth	Sphingidae	Migrant
<i>Sphinx ligustri</i>	Privet Hawk-moth	Sphingidae	Common
<i>Hyloicus pinastri</i>	Pine Hawk-moth	Sphingidae	Local
<i>Mimas tiliae</i>	Lime Hawk-moth	Sphingidae	Common
<i>Smerinthus ocellata</i>	Eyed Hawk-moth	Sphingidae	Common
<i>Laothoe populi</i>	Poplar Hawk-moth	Sphingidae	Common
<i>Hemaris fuciformis</i>	Broad-bordered Bee Hawk	Sphingidae	Notable/Nb
<i>Macroglossum stellatarum</i>	Humming-bird Hawk-moth	Sphingidae	Migrant
<i>Hyles galii</i>	Bedstraw Hawk-moth	Sphingidae	Migrant
<i>Hyles lineata</i>	Striped Hawk-moth	Sphingidae	Migrant
<i>Deilephila elpenor</i>	Elephant Hawk-moth	Sphingidae	Common
<i>Deilephila porcellus</i>	Small Elephant Hawk-moth	Sphingidae	Local
<i>Phalera bucephala</i>	Buff-tip	Notodontidae	Common
<i>Cerura vinula</i>	Puss Moth	Notodontidae	Common
<i>Furcula bicuspis</i>	Alder Kitten	Notodontidae	Notable/Nb
<i>Furcula furcula</i>	Sallow Kitten	Notodontidae	Common
<i>Furcula bifida</i>	Poplar Kitten	Notodontidae	Local
<i>Stauropus fagi</i>	Lobster Moth	Notodontidae	Common
<i>Notodonta dromedarius</i>	Iron Prominent	Notodontidae	Common
<i>Eligmodonta ziczac</i>	Pebble Prominent	Notodontidae	Common
<i>Peridea anceps</i>	Great Prominent	Notodontidae	Local
<i>Pheosia gnoma</i>	Lesser Swallow Prominent	Notodontidae	Common
<i>Pheosia tremula</i>	Swallow Prominent	Notodontidae	Common
<i>Ptilodon capucina</i>	Coxcomb Prominent	Notodontidae	Common
<i>Ptilodontella cucullina</i>	Maple Prominent	Notodontidae	Local
<i>Odontosia carmelita</i>	Scarce Prominent	Notodontidae	Local
<i>Pterostoma palpina</i>	Pale Prominent	Notodontidae	Common
<i>Drymonia dodonaea</i>	Marbled Brown	Notodontidae	Common
<i>Drymonia ruficornis</i>	Lunar Marbled Brown	Notodontidae	Local
<i>Clostera curtula</i>	Chocolate-tip	Notodontidae	Local
<i>Diloba caeruleocephala</i>	Figure of Eight	Notodontidae	Common
<i>Orgyia antiqua</i>	Vapourer	Lymantriidae	Common
<i>Calliteara pudibunda</i>	Pale Tussock	Lymantriidae	Common
<i>Euproctis chrysorrhoea</i>	Brown-tail	Lymantriidae	Local
<i>Euproctis similis</i>	Yellow-tail	Lymantriidae	Common
<i>Leucoma salicis</i>	White Satin	Lymantriidae	Local
<i>Lymantria monacha</i>	Black Arches	Lymantriidae	Local
<i>Thumatha senex</i>	Round-winged Muslin	Arctiidae	Local
<i>Miltochrista miniata</i>	Rosy Footman	Arctiidae	Local
<i>Cybosia mesomella</i>	Four-dotted Footman	Arctiidae	Local
<i>Pelosia muscerda</i>	Dotted Footman	Arctiidae	RDB3
<i>Eilema griseola</i>	Dingy Footman	Arctiidae	Common

<i>Eilema pygmaeola</i>	Pygmy Footman	Arctiidae	RDB1/3
<i>Eilema complana</i>	Scarce Footman	Arctiidae	Local
<i>Eilema deplana</i>	Buff Footman	Arctiidae	Local
<i>Eilema lurideola</i>	Common Footman	Arctiidae	Common
<i>Arctia caja</i>	Garden Tiger	Arctiidae	Common
<i>Arctia villica</i>	Cream-spot Tiger	Arctiidae	Local
<i>Spilosoma lubricipeda</i>	White Ermine	Arctiidae	Common
<i>Spilosoma luteum</i>	Buff Ermine	Arctiidae	Common
<i>Spilosoma urticae</i>	Water Ermine	Arctiidae	Notable/Nb
<i>Diaphora mendica</i>	Muslin Moth	Arctiidae	Common
<i>Phragmatobia fuliginosa</i>	Ruby Tiger	Arctiidae	Common
<i>Euplagia quadripunctaria</i>	Jersey Tiger	Arctiidae	Notable/Nb
<i>Callimorpha dominula</i>	Scarlet Tiger	Arctiidae	Local
<i>Tyria jacobaeae</i>	Cinnabar	Arctiidae	Common
<i>Meganola albula</i>	Kent Black Arches	Nolidae	Notable/Nb
<i>Nola cucullatella</i>	Short-cloaked Moth	Nolidae	Common
<i>Nola confusalis</i>	Least Black Arches	Nolidae	Local
<i>Nola aerugula</i>	Scarce Black Arches	Nolidae	Appendix (extinct)
<i>Euxoa tritici</i>	White-line Dart	Noctuidae	Common
<i>Euxoa nigricans</i>	Garden Dart	Noctuidae	Common
<i>Agrotis cinerea</i>	Light Feathered Rustic	Noctuidae	Notable/Nb
<i>Agrotis vestigialis</i>	Archer's Dart	Noctuidae	Local
<i>Agrotis segetum</i>	Turnip Moth	Noctuidae	Common
<i>Agrotis clavis</i>	Heart and Club	Noctuidae	Common
<i>Agrotis exclamationis</i>	Heart and Dart	Noctuidae	Common
<i>Agrotis ipsilon</i>	Dark Sword-grass	Noctuidae	Migrant
<i>Agrotis puta</i>	Shuttle Shaped Dart	Noctuidae	Common
<i>Agrotis ripae</i>	Sand Dart	Noctuidae	Notable/Nb
<i>Axylia putris</i>	Flame	Noctuidae	Common
<i>Actebia praecox</i>	Portland Moth	Noctuidae	Notable/Nb
<i>Ochropleura plecta</i>	Flame Shoulder	Noctuidae	Common
<i>Rhyacia simulans</i>	Dotted Rustic	Noctuidae	Local
<i>Noctua pronuba</i>	Large Yellow Underwing	Noctuidae	Common
<i>Noctua orbona</i>	Lunar Yellow Underwing	Noctuidae	Na
<i>Noctua comes</i>	Lesser Yellow Underwing	Noctuidae	Common
<i>Noctua fimbriata</i>	Broad-bordered Yellow Under.	Noctuidae	Common
<i>Noctua janthe</i>	Lesser Broad-bordered Y. U.	Noctuidae	Common
<i>Noctua interjecta</i>	Least Yellow Underwing	Noctuidae	Common
<i>Graphiphora augur</i>	Double Dart	Noctuidae	Common
<i>Paradiarsia glareosa</i>	Autumnal Rustic	Noctuidae	Common
<i>Lycophotia porphyrea</i>	True Lover's Knot	Noctuidae	Common
<i>Peridroma saucia</i>	Pearly Underwing	Noctuidae	Migrant
<i>Diarsia mendica</i>	Ingrailed Clay	Noctuidae	Common
<i>Diarsia brunnea</i>	Purple Clay	Noctuidae	Common
<i>Diarsia rubi</i>	Small Square-spot	Noctuidae	Common
<i>Xestia c-nigrum</i>	Setaceous Hebrew Character	Noctuidae	Common
<i>Xestia ditrapezium</i>	Triple-spotted Clay	Noctuidae	Local
<i>Xestia triangulum</i>	Double Square-spot	Noctuidae	Common
<i>Xestia baja</i>	Dotted Clay	Noctuidae	Common

<i>Xestia sexstrigata</i>	Six-striped Rustic	Noctuidae	Common
<i>Xestia xanthographa</i>	Square-spot Rustic	Noctuidae	Common
<i>Xestia agathina</i>	Heath Rustic	Noctuidae	Local
<i>Naenia typica</i>	Gothic	Noctuidae	Local
<i>Eurois occulta</i>	Great Brocade	Noctuidae	Na
<i>Anaplectoides prasina</i>	Green Arches	Noctuidae	Common
<i>Cerastis rubricosa</i>	Red Chestnut	Noctuidae	Common
<i>Discestra trifolii</i>	Nutmeg	Noctuidae	Common
<i>Hada nana</i>	Shears	Noctuidae	Common
<i>Polia nebulosa</i>	Grey Arches	Noctuidae	Common
<i>Sideridis albicolon</i>	White Colon	Noctuidae	Notable/Nb
<i>Mamestra brassicae</i>	Cabbage Moth	Noctuidae	Common
<i>Melanchra persicariae</i>	Dot Moth	Noctuidae	Common
<i>Lacanobia contigua</i>	Beautiful Brocade	Noctuidae	Local
<i>Lacanobia w-latinum</i>	Light Brocade	Noctuidae	Local
<i>Lacanobia thalassina</i>	Pale-shouldered Brocade	Noctuidae	Common
<i>Lacanobia suasa</i>	Dog's Tooth	Noctuidae	Local
<i>Lacanobia oleracea</i>	Bright-line Brown-eye	Noctuidae	Common
<i>Ceramica pisi</i>	Broom Moth	Noctuidae	Common
<i>Hecatera bicolorata</i>	Broad-barred White	Noctuidae	Common
<i>Hadena rivularis</i>	Campion	Noctuidae	Common
<i>Hadena perplexa</i>	Tawny Shears	Noctuidae	Local
<i>Hadena compta</i>	Varied Coronet	Noctuidae	Common
<i>Hadena confusa</i>	Marbled Coronet	Noctuidae	Local
<i>Hadena albimacula</i>	White Spot	Noctuidae	RDB2
<i>Hadena bicurris</i>	Lychnis	Noctuidae	Common
<i>Cerapteryx graminis</i>	Antler	Noctuidae	Common
<i>Tholera cespitis</i>	Hedge Rustic	Noctuidae	Common
<i>Tholera decimalis</i>	Feathered Gothic	Noctuidae	Common
<i>Panolis flammea</i>	Pine Beauty	Noctuidae	Common
<i>Orthosia cruda</i>	Small Quaker	Noctuidae	Common
<i>Orthosia miniosa</i>	Blossom Underwing	Noctuidae	Local
<i>Orthosia populeti</i>	Lead-coloured Drab	Noctuidae	Local
<i>Orthosia gracilis</i>	Powdered Quaker	Noctuidae	Common
<i>Orthosia cerasi</i>	Common Quaker	Noctuidae	Common
<i>Orthosia incerta</i>	Clouded Drab	Noctuidae	Common
<i>Orthosia munda</i>	Twin-spotted Quaker	Noctuidae	Common
<i>Orthosia gothica</i>	Hebrew Character	Noctuidae	Common
<i>Mythimna conigera</i>	Brown-line Bright Eye	Noctuidae	Common
<i>Mythimna ferrago</i>	Clay	Noctuidae	Common
<i>Mythimna albipuncta</i>	White-point	Noctuidae	Migrant
<i>Mythimna vitellina</i>	Delicate	Noctuidae	Migrant
<i>Mythimna pudorina</i>	Striped Wainscot	Noctuidae	Local
<i>Mythimna straminea</i>	Southern Wainscot	Noctuidae	Local
<i>Mythimna impura</i>	Smoky Wainscot	Noctuidae	Common
<i>Mythimna pallens</i>	Common Wainscot	Noctuidae	Common
<i>Mythimna litoralis</i>	Shore Wainscot	Noctuidae	Notable/Nb
<i>Mythimna l-album</i>	L-album Wainscot	Noctuidae	Notable/Nb
<i>Mythimna unipuncta</i>	White-speck	Noctuidae	Migrant

<i>Mythimna obsoleta</i>	Obscure Wainscot	Noctuidae	Local
<i>Mythimna comma</i>	Shoulder-striped Wainscot	Noctuidae	Common
<i>Mythimna loreyi</i>	Cosmopolitan	Noctuidae	Migrant
<i>Senta flammea</i>	Flame Wainscot	Noctuidae	Na
<i>Cucullia absinthii</i>	Wormwood	Noctuidae	Notable/Nb
<i>Cucullia chamomillae</i>	Chamomile Shark	Noctuidae	Local
<i>Cucullia umbratica</i>	Shark	Noctuidae	Common
<i>Cucullia asteris</i>	Star-wort	Noctuidae	Notable/Nb
<i>Cucullia verbasci</i>	Mullein	Noctuidae	Common
<i>Calophasia lunula</i>	Toadflax Brocade	Noctuidae	RDB3
<i>Brachylochia viminalis</i>	Minor Shoulder-knot	Noctuidae	Common
<i>Leucochlaena oditis</i>	Beautiful Gothic	Noctuidae	RDB3
<i>Aporophyla australis</i>	Feathered Brindley	Noctuidae	Notable/Nb
<i>Aporophyla nigra</i>	Black Rustic	Noctuidae	Common
<i>Lithophane semibrunnea</i>	Tawny Pinion	Noctuidae	Local
<i>Lithophane hepatica</i>	Pale Pinion	Noctuidae	Local
<i>Lithophane ornitopus</i>	Grey Shoulder-knot	Noctuidae	Common
<i>Lithophane leautieri</i>	Blair's Shoulder-knot	Noctuidae	Common
<i>Xylocampa areola</i>	Early Grey	Noctuidae	Common
<i>Allophyes oxyacanthae</i>	Green-brindled Crescent	Noctuidae	Common
<i>Dichonia aprilina</i>	Merveille du Jour	Noctuidae	Common
<i>Dryobotodes eremita</i>	Brindled Green	Noctuidae	Common
<i>Trigonophora flammea</i>	Flame Brocade	Noctuidae	Migrant
<i>Polymixis flavicincta</i>	Large Ranunculus	Noctuidae	Local
<i>Eumichtis lichenea</i>	Feathered Ranunculus	Noctuidae	Local
<i>Eupsilia transversa</i>	Satellite	Noctuidae	Common
<i>Conistra vaccinii</i>	Chestnut	Noctuidae	Common
<i>Conistra ligula</i>	Dark Chestnut	Noctuidae	Common
<i>Agrochola circellaris</i>	Brick	Noctuidae	Common
<i>Agrochola lota</i>	Red-line Quaker	Noctuidae	Common
<i>Agrochola macilenta</i>	Yellow-line Quaker	Noctuidae	Common
<i>Agrochola helvola</i>	Flounced Chestnut	Noctuidae	Common
<i>Agrochola lychnidis</i>	Beaded Chestnut	Noctuidae	Common
<i>Parastichtis suspecta</i>	Suspected	Noctuidae	Local
<i>Atethmia centrigo</i>	Centre-barred Sallow	Noctuidae	Common
<i>Omphaloscelis lunosa</i>	Lunar Underwing	Noctuidae	Common
<i>Xanthia citrigo</i>	Orange Sallow	Noctuidae	Common
<i>Xanthia aurago</i>	Barred Sallow	Noctuidae	Common
<i>Xanthia togata</i>	Pink-barred Sallow	Noctuidae	Common
<i>Xanthia icteritia</i>	Sallow	Noctuidae	Common
<i>Xanthia gilvago</i>	Dusky-lemon Sallow	Noctuidae	Local
<i>Acronicta megacephala</i>	Poplar Grey	Noctuidae	Common
<i>Acronicta aceris</i>	Sycamore	Noctuidae	Local
<i>Acronicta leporina</i>	Miller	Noctuidae	Common
<i>Acronicta alni</i>	Alder Moth	Noctuidae	Local
<i>Acronicta tridens</i>	Dark Dagger	Noctuidae	Local
<i>Acronicta psi</i>	Grey Dagger	Noctuidae	Common
<i>Acronicta strigosa</i>	Marsh Dagger	Noctuidae	Appendix (extinct)
<i>Acronicta auricoma</i>	Scarce Dagger	Noctuidae	Migrant

<i>Acrionicta rumicis</i>	Knotgrass	Noctuidae	Common
<i>Simyra albovenosa</i>	Reed Dagger	Noctuidae	Notable/Nb
<i>Craniophora ligustri</i>	Coronet	Noctuidae	Local
<i>Cryphia algae</i>	Tree-lichen Beauty	Noctuidae	Migrant
<i>Cryphia domestica</i>	Marbled Beauty	Noctuidae	Common
<i>Cryphia muralis</i>	Marbled Green	Noctuidae	Notable/Nb
<i>Amphipyra pyramidea</i>	Copper Underwing	Noctuidae	Common
<i>Amphipyra berbera</i>	Svensson's Copper Underwing	Noctuidae	Local
<i>Amphipyra tragopoginis</i>	Mouse Moth	Noctuidae	Common
<i>Mormo maura</i>	Old Lady	Noctuidae	Local
<i>Dypterygia scabriuscula</i>	Bird's Wing	Noctuidae	Local
<i>Rusina ferruginea</i>	Brown Rustic	Noctuidae	Common
<i>Thalpophila matura</i>	Straw Underwing	Noctuidae	Common
<i>Euplexia lucipara</i>	Small Angle Shades	Noctuidae	Common
<i>Phlogophora meticulosa</i>	Angle Shades	Noctuidae	Common
<i>Ipimorpha retusa</i>	Double Kidney	Noctuidae	Local
<i>Ipimorpha subtusa</i>	Olive	Noctuidae	Local
<i>Enargia paleacea</i>	Angle-striped Sallow	Noctuidae	Notable/Nb
<i>Parastichtis ypsillon</i>	Dingy Shears	Noctuidae	Local
<i>Cosmia trapezina</i>	Dun-bar	Noctuidae	Common
<i>Cosmia pyralina</i>	Lunar-spotted Pinion	Noctuidae	Local
<i>Apamea monoglypha</i>	Dark Arches	Noctuidae	Common
<i>Apamea lithoxylea</i>	Light Arches	Noctuidae	Common
<i>Apamea sublustris</i>	Reddish Light Arches	Noctuidae	Local
<i>Apamea oblonga</i>	Crescent Striped	Noctuidae	Notable/Nb
<i>Apamea crenata</i>	Clouded-bordered Brindle	Noctuidae	Common
<i>Apamea epomidion</i>	Clouded Brindle	Noctuidae	Common
<i>Apamea remissa</i>	Dusky Brocade	Noctuidae	Common
<i>Apamea unanimis</i>	Small Clouded Brindle	Noctuidae	Common
<i>Apamea anceps</i>	Large Nutmeg	Noctuidae	Local
<i>Apamea sordens</i>	Rustic Shoulder-knot	Noctuidae	Common
<i>Apamea scolopacina</i>	Slender Brindle	Noctuidae	Local
<i>Apamea ophiogramma</i>	Double Lobed	Noctuidae	Local
<i>Oligia strigilis</i>	Marbled Minor	Noctuidae	Common
<i>Oligia versicolor</i>	Rufous Minor	Noctuidae	Local
<i>Oligia latruncula</i>	Tawny Marbled Minor	Noctuidae	Common
<i>Oligia fasciuncula</i>	Middle-barred Minor	Noctuidae	Common
<i>Mesoligia furuncula</i>	Cloaked Minor	Noctuidae	Common
<i>Mesoligia literosa</i>	Rosy Minor	Noctuidae	Common
<i>Mesapamea secalis</i>	Common Rustic	Noctuidae	Common
<i>Mesapamea didyma</i>	Lesser Common Rustic	Noctuidae	Common
<i>Photedes minima</i>	Small Dotted Buff	Noctuidae	Common
<i>Photedes extrema</i>	Concolorous	Noctuidae	RDB3
<i>Photedes elymi</i>	Lyme Grass	Noctuidae	Na
<i>Photedes fluxa</i>	Mere Wainscot	Noctuidae	Notable/Nb
<i>Photedes pygmina</i>	Small Wainscot	Noctuidae	Common
<i>Eremobia ochroleuca</i>	Dusky Sallow	Noctuidae	Common
<i>Luperina testacea</i>	Flounced Rustic	Noctuidae	Common
<i>Amphipoea fucosa</i>	Saltern Ear	Noctuidae	Local

<i>Amphipoea oculea</i>	Ear Moth	Noctuidae	Common
<i>Hydraecia micacea</i>	Rosy Rustic	Noctuidae	Common
<i>Hydraecia osseola</i>	Marsh Mallow Moth	Noctuidae	RDB1
<i>Gortyna flavago</i>	Frosted Orange	Noctuidae	Common
<i>Celaena leucostigma</i>	Crescent	Noctuidae	Local
<i>Nonagria typhae</i>	Bulrush Wainscot	Noctuidae	Common
<i>Archanaera geminipuncta</i>	Twin-spotted Wainscot	Noctuidae	Local
<i>Archanaera dissoluta</i>	Brown-veined Wainscot	Noctuidae	Local
<i>Archanaera sparganii</i>	Webb's Wainscot	Noctuidae	Notable/Nb
<i>Rhizedra lutosa</i>	Large Wainscot	Noctuidae	Common
<i>Arenostola phragmitidis</i>	Fen Wainscot	Noctuidae	Local
<i>Coenobia rufa</i>	Small Rufous	Noctuidae	Local
<i>Charanyca trigrammica</i>	Treble Lines	Noctuidae	Common
<i>Hoplodrina alsines</i>	Uncertain	Noctuidae	Common
<i>Hoplodrina blanda</i>	Rustic	Noctuidae	Common
<i>Hoplodrina ambigua</i>	Vine's Rustic	Noctuidae	Unknown
<i>Spodoptera exigua</i>	Small Mottled Willow	Noctuidae	Migrant
<i>Caradrina morpheus</i>	Mottled Rustic	Noctuidae	Common
<i>Caradrina clavipalpis</i>	Pale Mottled Willow	Noctuidae	Common
<i>Chilodes maritimus</i>	Silky Wainscot	Noctuidae	Notable/Nb
<i>Elaphria venustula</i>	Rosy Marbled	Noctuidae	Notable/Nb
<i>Panemeria tenebrata</i>	Small Yellow Underwing	Noctuidae	Local
<i>Pyrrhia umbra</i>	Bordered Sallow	Noctuidae	Local
<i>Helicoverpa armigera</i>	Scarce Bordered Straw	Noctuidae	Migrant
<i>Heliothis peltigera</i>	Bordered Straw	Noctuidae	Migrant
<i>Lithacodia pygarga</i>	Marbled White Spot	Noctuidae	Common
<i>Deltote deceptoris</i>	Pretty Marbled	Noctuidae	Migrant
<i>Deltote uncula</i>	Silver Hook	Noctuidae	Local
<i>Deltote bankiana</i>	Silver Barred	Noctuidae	RDB3
<i>Earias clorana</i>	Cream-bordered Green Pea	Noctuidae	Notable/Nb
<i>Bena prasinana</i>	Scarce Silver-lines	Noctuidae	Local
<i>Pseudoips fagana</i>	Green Silver-lines	Noctuidae	Common
<i>Nycteola revayana</i>	Oak Nycteoline	Noctuidae	Local
<i>Colocasia coryli</i>	Nut-tree Tussock	Noctuidae	Common
<i>Chrysodeixis chalcites</i>	Golden Twin-spot	Noctuidae	Vagrant/Accidental
<i>Trichoplusia vittata</i>	Streaked Plusia	Noctuidae	Vagrant/Accidental
<i>Trichoplusia ni</i>	Ni Moth	Noctuidae	Migrant
<i>Diachrysia chrysitis</i>	Burnished Brass	Noctuidae	Common
<i>Macdunnoughia confusa</i>	Dewick's Plusia	Noctuidae	Migrant
<i>Polychrysia moneta</i>	Golden Plusia	Noctuidae	Common
<i>Plusia festucae</i>	Gold Spot	Noctuidae	Common
<i>Autographa gamma</i>	Silver Y	Noctuidae	Common
<i>Autographa pulchrina</i>	Beautiful Golden Y	Noctuidae	Common
<i>Autographa jota</i>	Plain Golden Y	Noctuidae	Common
<i>Abrostola trigemina</i>	Dark Spectacle	Noctuidae	Common
<i>Abrostola triplasia</i>	Spectacle	Noctuidae	Common
<i>Catocala nupta</i>	Red Underwing	Noctuidae	Common
<i>Callistege mi</i>	Mother Shipton	Noctuidae	Common
<i>Euclidea glyphica</i>	Burnet Companion	Noctuidae	Local

<i>Lygephila pastinum</i>	Blackneck	Noctuidae	Local
<i>Scoliopteryx libatrix</i>	Herald	Noctuidae	Common
<i>Phytometra viridaria</i>	Small Purple-barred	Noctuidae	Local
<i>Laspeyria flexula</i>	Beautiful Hook-tip	Noctuidae	Local
<i>Rivula sericealis</i>	Straw Dot	Noctuidae	Common
<i>Parascotia fuliginaria</i>	Waved Black	Noctuidae	Notable/Nb
<i>Hypena crassalis</i>	Beautiful Snout	Noctuidae	Local
<i>Hypena proboscidalis</i>	Snout	Noctuidae	Common
<i>Schrankia costaestrigalis</i>	Pinion-streaked Snout	Noctuidae	Local
<i>Herminea tarsipennalis</i>	Fan-foot	Noctuidae	Common
<i>Herminia plumigeralis</i>	Plumed Fan-foot	Noctuidae	Unknown
<i>Herminia grisealis</i>	Small Fan-foot	Noctuidae	Common
<i>Macrochilo cribrumalis</i>	Dotted Fan-foot	Noctuidae	Notable/Nb
<i>Paracolax tristalis</i>	Clay Fan-foot	Noctuidae	Na

Status Definitions And Criteria For Invertebrates

Criteria for the selection of species into the **Red Data** Book categories follow Shirt (1987), with minor modifications that are *italicised*. Categories RDB K (insufficiently known) and RDB I (indeterminate) are based on the criteria used by Wells, Pyle & Collins (1983). Criteria for the selection of Nationally Notable species follow Eversham (1983).

STATUS CATEGORIES

Red Data Book category 1 (RDB 1) - Endangered

Definition.

Taxa in danger of extinction in *Great Britain* and whose survival is unlikely if the causal factors continue operating.

Included are those taxa whose numbers have been reduced to a critical level or whose habitats have been so dramatically reduced that they are deemed to be in immediate danger of extinction. Also included are *some* taxa that are *possibly* extinct.

Criteria.

Species which are known *or believed to occur* as only a single population within one 10 km square of the National Grid.

Species which only occur in habitats known to be especially vulnerable.

Species which have shown a rapid or continuous decline over the last twenty years and are now *estimated* to exist in five or fewer 10 km squares

Species which are *possibly* extinct *but have been recorded this century* and if rediscovered would need protection.

Red Data Book category 2 (RDB 2) - Vulnerable

Definition.

Taxa *believed* likely to move into the endangered category in the near future if the causal factors continue operating.

Included are taxa of which most or all of the populations are decreasing because of *over-exploitation*, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security is not yet assured; and taxa with populations that are still abundant but are under threat from serious adverse factors throughout their range.

Criteria.

Species declining throughout their range.

Species in vulnerable habitats.

Red Data Book category 3 (RDB 3) - Rare

Definition.

Taxa with small populations *in Great Britain* that are not at present endangered or vulnerable, but are at risk.

These taxa are usually localised within restricted geographical areas or habitats or are thinly scattered over a more extensive range.

Criterion.

Species which are estimated to exist in only fifteen or fewer 10 km squares. *This criterion may be relaxed where populations are likely to exist in over fifteen 10 km squares but occupy small areas of especially vulnerable habitat*

Red Data Book category 4 (RDB 4) - Out of Danger

Definition.

Taxa formerly meeting the criteria of one of the above categories, but which are now considered relatively secure because effective conservation measures have been taken or the previous threat to their survival *in Great Britain* has been removed.

Red Data Book category 5 (RDB 5) - Endemic

Definition.

Taxa which are not known to occur naturally outside *Great Britain*. Taxa within this category may also be in any of the other RDB categories *or not threatened at all*.

Red Data Book Appendix (RDB app.) - Extinct

Definition.

Taxa which were formerly native to Great Britain but have not been recorded since 1900.

Red Data Book category I (RDB I) - Indeterminate

Definition.

Taxa *considered* to be Endangered Vulnerable or Rare in Great Britain but where there is not enough information to say which of the three categories (RDB 1 to 3) is appropriate.

Red Data Book category K (RDB K) - Insufficiently Known

Definition.

Taxa in Great Britain that are suspected *but* not definitely known, to belong to any of *the* above categories, because of lack of information.

Criteria.

Taxa recently discovered or recognised in Great Britain which may prove to be more widespread in the future.

Taxa with very few or perhaps only a single known locality but which belong to poorly recorded or taxonomically difficult groups.

Species known from very few localities but which occur in inaccessible habitats or habitats which are seldom sampled.

Species with very few or perhaps only a single known locality and of questionable native status, but not clearly failing into the category of recent colonist, vagrant or introduction.

Nationally Scarce Category A - Notable A (Na)

Definition.

Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and are thought to occur in 30 or fewer 10 km squares of the National Grid or, for less well recorded groups, within seven or fewer vice-counties.

Nationally Scarce Category B - Notable B (Nb)

Definition.

Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and are thought to occur in between 31 and 100 10 km squares of the National Grid or for less well recorded groups, between eight and twenty vice-counties.

Nationally Scarce - Notable (N)

Definition.

Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and are thought to occur in between 16 to 100 10 km squares of the National Grid. Species within this category are often too poorly known for their status to be more precisely estimated.

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