

## Belted Beauty Moth



*Belted beauty moth (male and female)*  
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Adult male belted beauty moths are winged and can be found during the spring flying in the day and at night. Females, however, have tiny (2mm) wings that are useless for flight. They are only able to crawl very short distances during their adult life (1).

Despite the poor dispersal powers of the female, the species is fairly widespread in Europe from as far east as Armenia and as far south as the Alps.

However, it is found predominantly in north-western Europe, although its numbers have declined in several countries. The sub-species *Lycia zonaria britannica* is endemic to the UK.

In Britain, the belted beauty is confined to coastal grasslands. English populations occur in early successional, sparsely-grassed sand dunes rather than the more grassy dunes favoured by the Welsh and some Scottish populations.

The male belted beauty is on the wing in March and April and is attracted to the largely sedentary female probably by scent. Mated females crawl through the vegetation laying eggs on a variety of different plants (<sup>2,3</sup>).

In Lancashire, it is believed that the caterpillars emerge and begin to feed in May and June. They mainly eat bird's-foot trefoil and kidney vetch preferring the flowers of these plants to the leaves. Other plants used in North West England are plantains, clovers, yarrow, burnet rose and creeping willow. The caterpillars burrow into soft dry sand to pupate in summer, emerging the following year. Some caterpillars are thought to be able to delay emergence for a further year if weather conditions are not suitable.

**Main Habitat (s):** Early successional sand dunes.

## National status

In Britain the belted beauty occurs in coastal locations in western Scotland, northern Wales and North West England.

There are two sub-species, the English/Welsh populations are *Lycia zonaria britannica* and the Scottish populations are mainly *Lycia zonaria atlantica*. The sub-species *britannica* is found at Meols on the Wirral and Morfa Conwy, Caernarvonshire <sup>(4)</sup> and has been recorded recently at one site in Lancashire.

The English/Welsh sub-species has declined markedly due to loss of habitat. It is included in the British Red Data Book (RDB3 – rare) and is the focus of a Plan in the UK BAP <sup>(5)</sup>.

## Regional status

There are pre-1915 records from the Sefton Coast for this species and in April 2000 two females were found in the Ainsdale Dunes (11).

The continued presence of a colony on the Wirral in Cheshire was confirmed in 2000 (11).

There are also records for the moth in Lancashire as described below.

## Local status

The only known recent Lancashire locality is the area around Sunderland Point and Potts Corner. There are four records for the species at Sunderland Point, Lancashire in 1975, 1982, and 1985 <sup>(7)</sup>. There is also a report of a caterpillar seen at Potts Corner in 1993 <sup>(8)</sup>.

The site of the 1980s records is within the Lune Estuary SSSI <sup>(9)</sup>.

## Current factors affecting the species

In England at least, *Lycia zonaria britannica* is a moth of early, less stable, mossy dunes and, for this reason, it is very vulnerable to successional changes in vegetation. Despite searches, there have been no records at Sunderland Point/Potts Corner since 1993. The habitat at Potts Corner is considered still suitable (Rigby, pers comm.). There is some question as to whether the habitat in the area of Sunderland Point is still capable of supporting the species. According to at least one local botanist, however, the habitat in the area around the Point "has not changed much" since the moth was last recorded (11).

The natural processes of dune formation would normally ensure that as suitable habitat was lost new potential habitat would also be created. At Sunderland Point the natural movement of the sand and shingle bar will eventually shift the Point. The dune habitat cannot move inland without loss of agricultural land. Furthermore, a caravan site abutting the adjacent Potts Corner site reduces the ability of this site to shift naturally in response to coastal dynamics.

The poor dispersal ability of the species coupled with the isolation of its colonies minimises its ability to colonise or re-colonise suitable areas.

Pressure from trampling on sensitive dune systems is identified in the UK BAP as a potential threat to this species.

## Current Action / Mechanisms

There is a UK BAP Species Action Plan for the species and Butterfly Conservation have produced a Regional Action Plan that includes this moth (4).

Butterfly Conservation conducted a regional survey in 2000 to identify potential habitat for the species. Twenty potential sites were surveyed in Lancashire, Cheshire and Cumbria. Five of these were in Lancashire. Three sites that were considered to be suitable for the species were identified: Potts Corner; around Rossall Point and a stretch of Lytham coastline.

Different techniques are being adopted in experimental plots at the site on the Wirral to determine the best way to manage vegetation for the belted beauty. There was an unsuccessful re-introduction attempt close to the existing Wirral population in 1994. The failure was thought to be due to wetter soil conditions at the receptor sites (4).

Annual monitoring for the moth takes place at the Wirral and north Wales sites (4). The Lancashire Moth Group undertook searches for the moth at Sunderland Point and on the Sefton coast in spring 2000 (11).

English Nature has made funds available to Butterfly Conservation for travel expenses incurred in specific studies of UK Priority moth species (11).

### Objectives, targets and proposed actions for belted beauty in Lancashire

<b>Broad Objective:</b>	<b>A. Confirm the status of belted beauty in Lancashire by 2005</b>			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Confirm the status at Sunderland Point.	1. Co-ordinate monitoring for adults and larvae at Sunderland Point. (High)	LMG, BC, EN	S	RM
2. Confirm its status elsewhere in Lancashire.	1. Monitor for the species at the potential Lytham and Rossall sites identified in the 2000 regional survey, investigating both for adults and caterpillars. (High)	BC, LMG	S	RM
<b>Broad Objective:</b>	<b>B. Consider re-establishment of the belted beauty in Lancashire</b>			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Undertake feasibility study on the introduction/re-introduction of the species in the county	1. Consider re-introduction of <i>Lycia zonaria britannica</i> at historical sites (Medium).	BC, LMG	S	RM
	2. Consider introduction of <i>Lycia zonaria britannica</i> at other sites with suitable habitat in the county (Low).	BC, LMG, EN	S	RM

### **Related Action Plans:**

- Sand Dune HAP

### **References & additional reading:**

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5. UK Biodiversity Steering Group Tranche Two Action Plans Volume VI The Stationary Office. pp91 – 92
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10. Kimpton, A. (2000) *A report on possible sites for the Belted Beauty Moth (Lycia zonaria britannica Harrison) in the north west of England*. Butterfly Conservation Report No. S00-18. Butterfly Conservation, Wareham, Dorset.
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