



Heath Beefly *Bombylius minor*



Biodiversity Action Plan

Description



Superficially resembling a small bumblebee, *Bombylius minor* is covered in long hairs like other members of the genus but is distinguished from them by its unmarked wings, pale hairs behind the head and pale coloured femora. The adult has a long proboscis which it uses to probe flowers for nectar. Larvae live and feed in the nests of the solitary bee species *Colletes succinctus* and females have been observed flicking their eggs into host nests. Adults fly in July and August. Flight season for the adults on the Isle of Man is from 5th July to the 28th August.

Habitat

Areas with a high abundance of the food plant wild thyme *Thymus polytrichus* typically disturbed sandy places including historic sand pits and footpaths as the plant is outcompeted by more vigorous species.

Distribution and Status



B. minor is oddly distributed in the British Isles. Current distribution seems to be limited to the Dorset heaths and the north coast of the Isle of Man at The Ayres, The Phurt (Ramsey) and The Lhen, although there are older records from Hampshire, Cornwall and the west coast of Wales.

Legal protection and Status

- Listed on Schedule 5 of the Wildlife Act 1990
- Monitoring indicates the species has greatly declined on the Ayres since 2006/2007.

Threats

Change/loss of habitat: habitat in the Isle of Man is dependent on the suitability for host *Colletes succinctus* nest sites, namely open, often disturbed sandy ground. Vegetation encroachment, particularly by bracken and gorse, would reduce the availability of suitable nest burrows for the fly to flick its eggs into.

Inadvertent disturbance by walkers, dogs and unauthorised vehicles at the Ayres may destroy bee burrows.

In recent years, flooding at the Ayres has threatened areas of heathland and this may be a lasting effect of climate change and sea level rise.

Change/loss of management: loss of warden oversight and management could lead to lack of monitoring of the heathland and degradation of habitat for the bee flies.

This species is extremely vulnerable in its Dorset locations due to habitat fragmentation and urbanisation of the heathland. Even stabilisation of natural erosion can be detrimental. The Isle of Man therefore has a responsibility to ensure the species continues to thrive at The Ayres at its only other known location in the British Isles.

The chough population has greatly increased in recent years in the north of the Island as they have become adapted to nesting in farm barns and chough feed preferentially on *Colletes* bee grubs.

Ayres NNR



Chough



Knowledge and Constraints

Has been monitored annually by DEFA warden and volunteers, but efforts may have slipped recently due to resources. More systematic and detailed surveying is desirable but would depend upon resources.

This species often features in presentations and guided walks about the Ayres. It can be useful as a 'flagship species', promoting awareness of the ecology of the dune system and its specialised invertebrate inhabitants.

Linked BAPS

Habitats

- Sand dunes

Conservation Objectives

Objective 1: maintain and enhance suitable habitat for solitary bee *Colletes succinctus* as the host species for larvae of *B.minor* (DEFA, MNH + volunteers)

Actions:

1. Remove vegetation encroachment which is shading or likely to shade *Colletes* nest sites.
2. Provide strategic bare patches in fixed dunes and heathland in The Ayres NNR to encourage *Colletes succinctus* to nest and to provide places for insects to bask generally.
3. Assess and monitor likelihood and effects of flooding on key sites for bee fly and host and provide mitigation measures if necessary, eg by providing bare ground for host nests on nearby higher ground (aspect, slope, drainage, vegetation etc permitting). Look into the possibility of allowing some run-off gullies to develop naturally to provide the steep-sided ground that *Colletes* favours for nesting. Natural erosion along footpaths, tracks etc may provide additional habitat and should not be tidied up or stabilised unless necessary.
4. Ensure that nectar sources for the bee fly and host bees are not destroyed in the course of routine management. Nectar sources include Thyme, Sheep's Bit Scabious, Ragwort, Bell Heather and yellow composites such as Catsear.
5. Protect *Colletes* bee colony from feeding chough; trial wire netting cages over *Succinctus* colony.

Objective 2: Monitor populations of Heath Bee fly and its host (DEFA, volunteers, local and visiting entomologists)

Actions:

1. Continue/reinstate annual counts of Heath Bee fly and its host *Colletes succinctus* as part of monitoring activity at The Ayres NNR.
2. Estimate size and map colonies of *C.succinctus* at The Ayres, Lhen and Phurt.

Objective 3: Identify possible colonisation sites other than The Ayres and Phurt (local and visiting entomologists)

1. Check for *C.succinctus* colonies in other suitable-looking habitat along the north coast outside the NNR.
2. Survey known *C. succinctus* colonies, such as those on the mine deads at Beckwith's Mine and the Calf of Man, for the presence of the Heath Bee fly.

Objective 4: Promote the conservation of the Heath Bee fly (DEFA, MNH, MWT + volunteers)

Actions:

1. Walks and talks by DEFA staff and informed volunteers
2. Commission specialist close-up photography of the bee fly and its host and provide habitat context for promotion of bee fly as a possible flagship species for dune/heath ecology and habitat management.
3. Displays in Ayres visitor centre

Objective 5: Review and update this BAP

Actions:

1. Review by December 2023

