



Butterfly  
Conservation



*Coleophora vibicella*

## Dyer's Greenweed

*Genista tinctoria*

A key plant for moths and other insects

**Dyer's Greenweed *Genista tinctoria* is an important foodplant for a range of scarce and threatened moths and other insects. It is widespread in England and Wales, but local and uncommon in southern Scotland and is declining throughout its range. Occurring in unimproved grassland, it is usually found on heavy soils with low fertility and with a pH ranging from moderately alkaline to moderately acidic. The decline of this plant is strongly linked to the destruction or neglect of unimproved pasture and even where it remains, few colonies are large enough to support the associated invertebrate fauna.**

### The moths of Dyer's Greenweed

Approximately 20 species have been recorded feeding on Dyer's Greenweed. Many also feed on Broom *Cytisus scoparius* or other related species but five or six are restricted solely to this plant and these are particularly at risk. *Syncopacma vinella* was last seen in 1990 and is now presumed extinct.

Two species; Large Gold Case-bearer *Coleophora vibicella* and Greenweed Flat-body *Agonopterix atomella* are Priority Species within the UK Biodiversity Action Plan and are listed as species of principle importance in England in Section 41 of the NERC Act, 2006. *C. vibicella* constructs a black silken case from within which the larva mines the leaves of Dyer's Greenweed between May and early July, creating whitish blotches on the leaves. The case is enlarged as the larva grows and is about at least 2cm long when completed. The case is fixed to the foodplant or adjacent vegetation for pupation and old cases can still be found in the autumn. The adult moth flies from late June to the end of August.

The larvae of three species that are restricted to this foodplant spin together the terminal leaves of a Dyer's Greenweed shoot and feed within this spinning. Timing of the larval stage varies slightly between species but searches in the second half of May should be suitable for all. The species concerned are *A. atomella* which flies in late summer before hibernating and then emerging again in early spring, the tortrix moth *Grapholita lathyrena*, a provisional Red Data Book species which is currently known from only two sites in southern England, the adult flying in sunshine in March and April, and *Mirificarma lentiginosella* which is Nationally Scarce, flies in August and can be disturbed during the day from the foodplant.

The tiny *Trifurcula beirnei* is also a provisional Red Data Book species known from just two sites. The larval stage is thought to mine the bark of the main stems. Adults fly in late August and early September and can be disturbed from Dyer's Greenweed during the day.

*Leucoptera laburnella* form *wallesella* is considered by some authorities to be a full species. This form or species mines the leaves of Dyer's Greenweed and is the commonest of the moths which feed solely on this foodplant.

### Other invertebrates associated with Dyer's Greenweed

A number of other insects are restricted to this foodplant, including leaf beetles and weevils, leaf mining and gall-causing flies, true bugs and sawflies. Some, such as the gall-causing fly *Jaapiella genisticola* and the pollen beetle *Meligethes bidentatus* are now extremely rare.



*Coleophora vibicella* larval case

## Habitat management for moths on Dyer's Greenweed

**Dyer's Greenweed has declined significantly due to the agricultural improvement or abandonment of grassland. Management should aim to create substantial colonies of the plant; sites with a few dozen plants are unlikely to support any of the rarer moths.**

On all but the most infertile sites, Dyer's Greenweed requires grazing or winter mowing to prevent coarse grasses and scrub from eliminating it, and to allow seeds to germinate. Most of the moth species associated with the plant can thrive under such management but *C. vibicella* and perhaps *T. beirnei* are intolerant of mowing or heavy grazing.

At one site where the *C. vibicella* population is increasing, management is by extensive cattle grazing using a maximum stocking density of 0.75 livestock units per hectare (LU/ha) during April and May, 1LU/ha or less from June to October and no grazing from November to February inclusive. The management aim is to create a sward height of 5-10cm interspersed with tussocky areas by November. Stock are allowed to range over a large area and the intensity of grazing in the part of the site where the Dyer's Greenweed occurs is very low. Heavy grazing of *C. vibicella* sites has caused the extinction of the moth within two years.

Grazing of sites where the other rare moths occur does not appear to be deleterious unless sheep are used during the period when Dyer's Greenweed is flowering. Sheep will eat the flowers and will also remove the terminal shoots in which the moth larvae are feeding, causing direct mortality to the larvae.

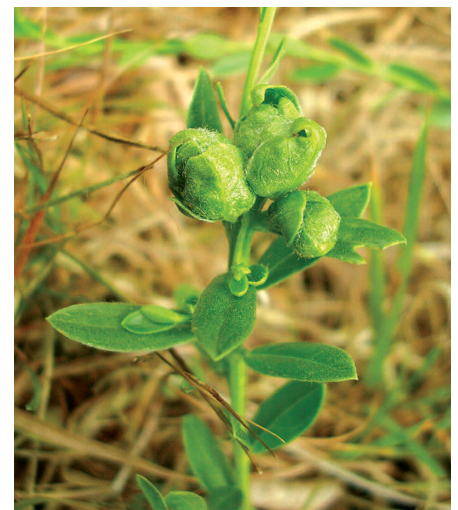
### How to survey and monitor

The different species of threatened micro-moths require surveying using different techniques:

- ◆ *C. vibicella* is best found by searching for the black, silk larval cases which can be found throughout the summer, even long after the moth has emerged. Adult moths can be swept or disturbed during the day from the foodplant.
- ◆ *A. atomella* and *M. lentiginosella* are both best found by searching for the spun terminal leaves of the Dyer's Greenweed and gently pulling them apart to reveal the larva. Adults of both species will come to light occasionally.
- ◆ *G. lathyrana* flies in sunshine when it can be netted, but it tends to fly low over the ground and be very difficult to see. Larvae can be found in spun terminal leaves as above.
- ◆ The early stages of *T. beirnei* have never been recorded in Britain. Adults can be swept or disturbed from the foodplant during the day and numbers have been seen flying over Dyer's Greenweed at dusk.



above Adult (left) and larva (right) of *Agonopterix atomella*



top Larva of *Mirificarma lentiginosella*  
middle Larva of *Grapholita lathyrana*  
bottom Galls caused by the fly *Jaapiella genisticola*



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Conservation**

Saving butterflies, moths and our environment

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