Harlequin ladybird, *Harmonia axyridis*

**Overview**

Short description of *Harmonia axyridis*, Harlequin ladybird

Highly variable in appearance. Adults, 5-8 mm in length, occur in three colour forms: yellow-orange to red with 0 to 21 black spots, black with two red spots and black with four red spots. Larvae are covered with branched spines and have orange sides.

**Description of *Harmonia axyridis*, Harlequin ladybird status in GB**

The harlequin ladybird is well established in England and Wales and spreading rapidly. Local in Scotland, but likely to invade further.

**Habitat summary: *Harmonia axyridis*, Harlequin ladybird**

Harlequin ladybirds are still found mainly in towns but are spreading to other habitats within the wider countryside. They occur especially on lime and sycamore trees, which support large aphid populations in late summer.

**Overview table**

<table>
<thead>
<tr>
<th>Environment:</th>
<th>Terrestrial</th>
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<tbody>
<tr>
<td>Species status:</td>
<td>Non-Native</td>
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<tr>
<td>Native range:</td>
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<td>Functional type:</td>
<td>Predator</td>
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<td>Status in England:</td>
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<td>Status in Scotland:</td>
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<td>Status in Wales:</td>
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<td>Location of first record:</td>
<td>Sible Hedingham (19)</td>
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<td>Date of first record:</td>
<td>2004</td>
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**Invasion history: *Harmonia axyridis*, Harlequin ladybird**

**Origin**

The harlequin ladybird is native to central and eastern Asia

**First Record**

Essex (September, 2004)

**Pathway and Method**

The harlequin ladybird was intentionally introduced as a biological control agent to several European countries. Harlequins arrived by flight across the Channel and also on fruit, vegetables and flowers from Europe and in packing cases from Canada.

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We try to keep these factsheets up to date, however if you notice any issues please contact us
Species Status
The harlequin ladybird has a long history of introduction as a biological control agent of coccids and aphids around the world. The first release was in North America, in 1916. It has been sold commercially in Europe since 1982 but never in GB. It is known to be invasive in Europe, North America, South America, South Africa and the Middle East. It has spread rapidly in GB, extending its range by about 100 km per year over the first four years of establishment.

Ecology & Habitat: *Harmonia axyridis*, Harlequin ladybird

Dispersal Mechanisms
Harlequin ladybirds fly readily between aphid host plants during breeding periods, seeking high-density aphid populations. They can migrate over long distances, as shown by their ability to cross the English Channel. Their use as a biological control agent in agriculture has enhanced worldwide dispersal.

Reproduction
An adult produces 20-50 eggs per day (1000-4000 eggs per life time). In temperate regions the egg stage will take four to five days, the larval stage about three weeks and the pupal stage one week. The adults typically live for a year and are reproductively active for about three months. They have two generations a year in GB.

Known Predators/Herbivores
Natural enemies of native ladybirds in GB include: a pathogenic fungus *Beauveria bassiana*, a predatory bug *Deraeocoris ruber*, & two parasitic wasps (*Dinocampus coccinellae*, *Oomyzus scaposus*), two parasitic flies (*Phalacrotophora fasciata*, *P. berolinensis*), the sexually transmitted mite *Coccipolipus hippodamiae*, a number of pathogenic fungi including *Beauveria & bassiana* and *Hesperomyces virescens*, and a variety of male-killing bacteria (*Wolbachia, Spiroplasma, Rickettsia*). Many of these are present in the harlequin ladybird’s native range but their impact on harlequin ladybirds is unclear.

Resistant Stages
Harlequin ladybirds survive the winter as adults, often in large aggregations, in a metabolically inactive state (diapause).

Habitat Occupied in GB
Harlequin ladybirds inhabit towns, orchards, gardens, woods and hedges.

Distribution: *Harmonia axyridis*, Harlequin ladybird

Impacts: *Harmonia axyridis*, Harlequin ladybird

Environmental Impact
Harlequin ladybirds are larger than most other predators of aphids, and often devour the larval stages of other ladybirds. They reduce aphid populations, leaving less food for other species. Both of these effects are likely to lead to a reduction in the population size of some native species, but the eventual magnitude of their effect in GB is still unclear.

Health and Social Impact
During autumn and winter large aggregations of harlequin ladybirds occur in buildings. When disturbed, they emit coloured blood (reflex bleeding), which stains soft furnishings. Some people have reported allergic reactions and others have complained of bites.

Economic Impact
Harlequin ladybirds are a pest of apple and pear orchards in other countries. In late summer and autumn aphids become scarce and the ladybirds feed on soft fruit causing blemishing and an associated reduction in market value.

References & Links: *Harmonia axyridis*, Harlequin ladybird

Identification
Harlequin Survey website

Ladybird Survey website
**Biology, ecology, spread, vectors**


**Management and impact**


**General**

https://www.cabi.org/isc/datasheet/26515


