

Guide to ladybirds of the British Isles

Special edition



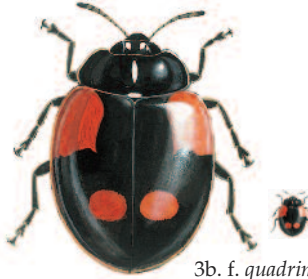
1. Seven-spot ladybird
Coccinella 7-punctata



2. Scarce seven-spot ladybird
Coccinella magnifica



3a. *f. typica*



3b. *f. quadrimaculata*

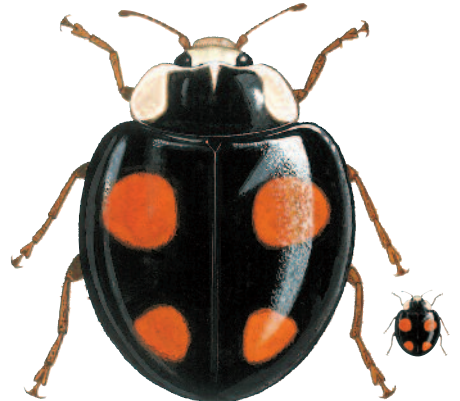


3b. *f. sexpustulata*

3. Two-spot ladybird *Adalia 2-punctata*



4a. *f. conspicua*



4b. *f. spectabilis*



4c. *f. succinea*



4d. *f. axyridis*

There are over 100 colour pattern varieties of the harlequin ladybird, four of which are shown

4. Harlequin ladybird *Harmonia axyridis*

Large illustrations are at 6x life size; small illustrations are at approximately life size



5a. f. *decempunctata*

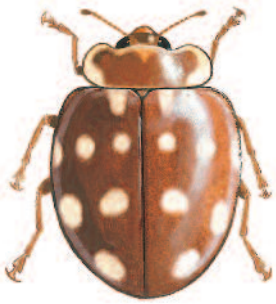


5b. f. *decempustulatus*



5c. f. *bimaculata*

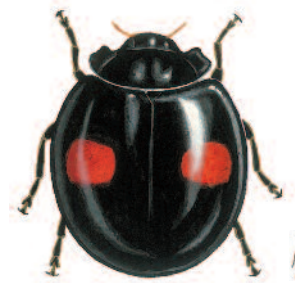
5. Ten-spot ladybird *Adalia 10-punctata*



6. Cream-spot ladybird
Calvia 14-guttata



7. Orange ladybird
Halyzia 16-guttata



8. Kidney-spot ladybird
Chilocorus renipustulatus

on deciduous trees



9. Heather ladybird
Chilocorus 2-pustulatus

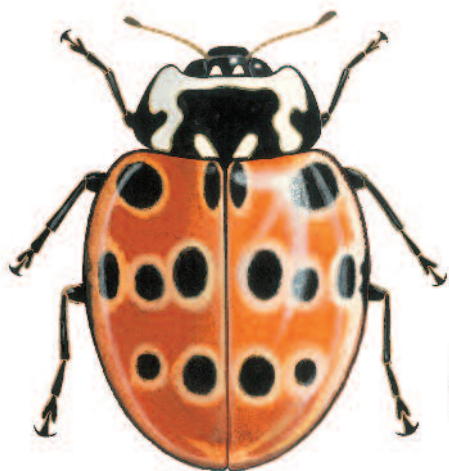


10a. f. *typica*



10b. f. *areata*

10. Hieroglyphic ladybird *Coccinella hieroglyphica*



11a. (with rings)



11b. (without rings)

11. Eyed ladybird *Anatis ocellata*

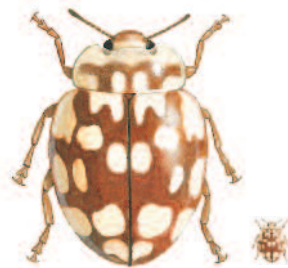


12a. (four-spotted form)

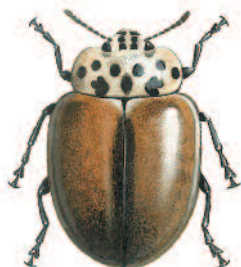


12b. (sixteen-spotted form)

12. Cream-streaked ladybird *Harmonia 4-punctata*



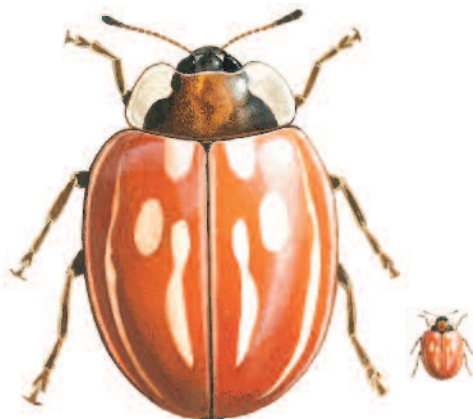
13. Eighteen-spot ladybird
Myrrha 18-guttata



14. Larch ladybird
Aphidecta oblitterata



15. Pine ladybird
Exochomus 4-pustulatus



16. Striped ladybird
Myzia oblongoguttata



17. Adonis' ladybird
Hippodamia variegata



18. Eleven-spot ladybird
Coccinella 11-punctata



19a. (black on yellow)



19b. (yellow on black)

19. Fourteen-spot ladybird *Propylea 14-punctata*



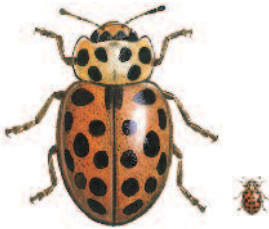
20. Sixteen-spot ladybird
Tytthaspis 16-punctata



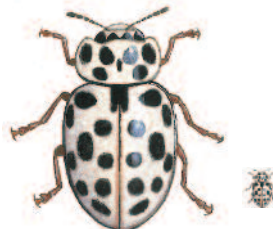
21. Twentytwo-spot ladybird
Thea 22-punctata



22. Twentyfour-spot ladybird
Subcoccinella 24-punctata



23a. (summer)



23b. (winter)



23c. (side view)

23. Water ladybird *Anisosticta 19-punctata*

on grass and meadowland



24. Thirteen-spot ladybird
Hippodamia 13-punctata



25. Five-spot ladybird
Coccinella 5-punctata



26. Bryony ladybird
Epilachna argus

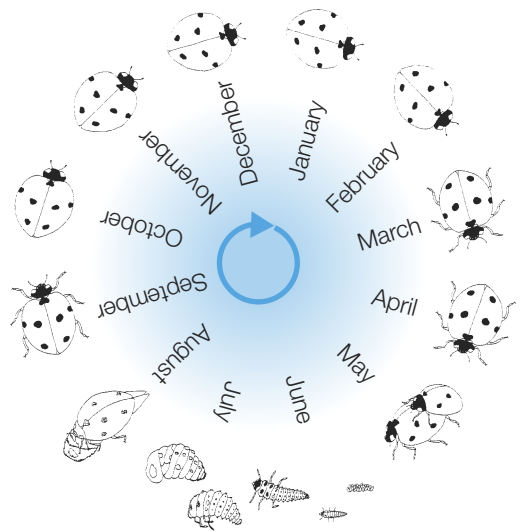
Guide to ladybirds of the British Isles

Text by Michael Majerus, Helen Roy, Peter Brown and Remy Ware
Illustrations by Chris Shields

Introduction

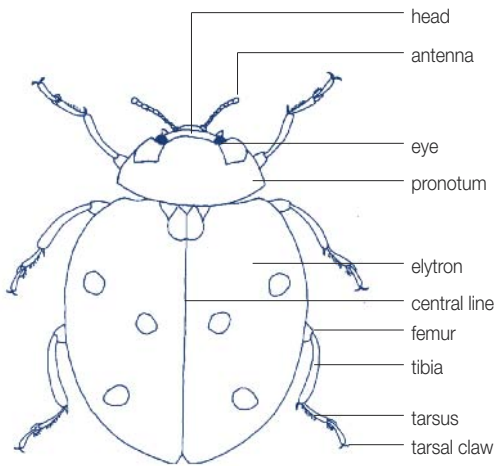
Ladybirds are insects within the order Coleoptera (beetles). They have their own family within the beetle order: Coccinellidae (meaning 'clad in scarlet'). Ladybirds, like all beetles, have biting mouthparts and hard wing cases (elytra). There are 46 coccinellid species in the UK, and over 5000 described species worldwide. Of the UK species, 26 are recognisable as ladybirds and are shown in this chart.

Life cycle

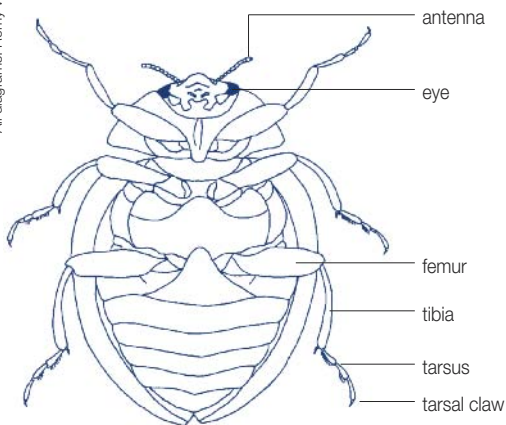


Life cycle of seven-spot ladybird

Some ladybirds, such as the seven-spot, have a single generation each year. Others, such as the harlequin, may have two or more generations, as long as temperatures remain high and food is available.



Anatomy of a ladybird: upperside



Anatomy of a ladybird: underside



Eyed ladybird egg batch on pine

Eggs. Most female ladybirds lay their eggs in batches, although a few, such as the heather ladybird, lay eggs singly or in twos or threes. Most ladybird eggs are yellow or orange in colour and take 4-10 days to hatch, depending on temperature.



Orange ladybird larva

Larvae. Newly-hatched larvae eat any unhatched eggs in their batch and then disperse to find food. Larvae vary in colour and pattern. Many are grey, but some are yellow, buff or brown. Most have a pattern of pale spots on some of the abdominal segments. The larvae pass through four instars, a process which takes 3-6 weeks.



Orange ladybird pupa

Pupae. These vary in colour, from off-white, through various shades of yellow, orange, grey or brown to black. Many have spots or patterns on the main background colour. The pupal stage lasts 7-10 days.

Adult. The emerging adult has yellow and unpatterned elytra. Blood is pumped into the elytra and wings to expand them, and the colour patterns develop over the first hours of adult life.

Species	Status	Colour pattern	Habitat	Overwintering site	Distribution
1. Seven-spot ladybird <i>Coccinella 7-punctata</i>	●	Red with 0-9 (7) black spots	Diverse, usually in herbaceous layer	Diverse, usually low down	Widespread in Britain
2. Scarce seven-spot ladybird <i>Coccinella magnifica</i>	✦	Red with 5-11 (7) black spots	A myrmecophile; found close to <i>Formica</i> ant nests	Foliage and litter near <i>Formica</i> nests	Local in SE; rare in N & W
3. Two-spot ladybird <i>Adalia 2-punctata</i>	●	3a: red with 0-16 (2) black spots, sometimes fused. 3b: black with 0-6 (4) red spots. 3c: black with 0-6 (6) red spots	Diverse	Aggregates indoors (e.g. around window frames) and outdoors	Widespread in Britain; rare at high altitude
4. Harlequin ladybird <i>Harmonia axyridis</i>	✦	4a: black with 2 orange / red spots 4b: black with 4 orange / red spots 4c: orange / red with with 0-21 (16) black spots 4d: orange / red with black grid pattern	Diverse	Aggregates on stone, wood or in cracks in building walls	Recent immigrant; SE England; scarce elsewhere; spreading and increasing
5. Ten-spot ladybird <i>Adalia 10-punctata</i>	●	5a & 5b Cream, yellow, orange, red or light brown: 5a: with red, 0-15 (10) maroon, brown or black spots; 5b: with red, maroon, brown or black grid pattern; 5c: maroon, brown or black with 2 yellow, orange or red spots	On deciduous trees	Leaf litter and plant debris close to the ground	Widespread in Britain
6. Cream-spot ladybird <i>Calvia 14-guttata</i>	●	Maroon-brown with 14 white / cream spots	Deciduous trees	Leaf litter	Widespread in Britain
7. Orange ladybird <i>Halyzia 16-guttata</i>	●	Orange with 12-16 (16) white spots	On deciduous trees, particularly sycamore and ash	In leaf litter or on trunks / under branches	Widespread in S & C England & Wales; more local in N; increasing
8. Kidney-spot ladybird <i>Chilocorus renipustulatus</i>	✦	Black with 2 large orange / red spots	Deciduous trees: willows, poplars, ash and birch	Near base of host trees, more rarely on the trees	Widespread in England; local or scarce elsewhere
9. Heather ladybird <i>Chilocorus 2-pustulatus</i>	■	Black with 2-6 (6) red spots in a central transverse line	Heather heathland, on deciduous trees (e.g. ash)	In litter or in evergreen foliage (e.g. gorse, conifers)	Local in England and Wales; declining
10. Hieroglyphic ladybird <i>Coccinella hieroglyphica</i>	■	10a: brown with 0-7 (5) black spots, stripes and/or patches. 10b: black + or - brown patches	Heather heathland	In litter under heather	Widespread but local; declining
11. Eyed ladybird <i>Anatis ocellata</i>	✦	Burgundy red with 0-23 (15) black spots, with (11a) or without (11b) pale rings around spots	On conifers, particularly mature Scots pine	In soil or moss under pines	Widespread in Britain
12. Cream-streaked ladybird <i>Harmonia 4-punctata</i>	✦	Yellow, orange or pink with 4-20 (12a: 4, 12b: 16) black spots and cream streaking	On needled conifers	In or under conifer bark; more rarely amongst foliage	Widespread in England; local elsewhere; spreading
13. Eighteen-spot ladybird <i>Myrrha 18-guttata</i>	■	Maroon with 14-18 (18) cream spots; spots often fused	Mature Scots pine, most often high up	In cracks in pine bark	Widespread in S & C England & Wales; scarce in N
14. Larch ladybird <i>Aphidecta obliterata</i>	✦	Brown with 0-10 (0) black oblique dash shapes and occasionally black spots	On needled conifers, particularly firs and larch	In cracks in conifer bark	Widespread in Britain
15. Pine ladybird <i>Exochomus 4-pustulatus</i>	●	Black with 2-4 (4) red spots	On trees, particularly needled conifers, ash and birches	In foliage of evergreen trees and shrubs	Widespread in S & C England; more local to N & W

Status codes for Britain: ● widespread and common ✦ locally common ■ scattered ✦ scarce ● rare ◆ currently extinct

The figures in brackets refer to the modal (i.e. commonest) number of spots or other markings on the elytra

Species	Status	Colour pattern	Habitat	Overwintering site	Distribution
16. Striped ladybird <i>Myzia oblongoguttata</i>	✳	Chestnut / brown with 0-15 (13) cream stripes and spots	On mature Scots pine	In soil or moss below Scots pine	Widespread in Britain
17. Adonis' ladybird <i>Hippodamia variegata</i>	■	Red with 3-15 (7) black spots	Diverse on low plants and shrubs	In litter and dead plant stems	Local in England & Wales; increasing
18. Eleven-spot ladybird <i>Coccinella 11-punctata</i>	●	Red with 7-11 (11) black spots; sometimes some spots fused	Diverse on herbaceous plants	In litter and dead plant stems	Widespread in England & Wales; local in Scotland
19. Fourteen-spot ladybird <i>Propylea 14-punctata</i>	●	19a: yellow with 4-14 (14) black spots; spots often fused. 19b: black with 8-12 (12) yellow spots	Diverse	Diverse but most often near ground	Widespread in England & Wales; scarce in Scotland
20. Sixteen-spot ladybird <i>Tytthaspis 16-punctata</i>	●	Creamy-buff with 13-18 (16) black spots; black central line; with three lateral spots on each elytron usually fused	Grasslands	Aggregates on grasses, gorse, fence posts, etc.	Widespread in S of Britain; scarce further N;
21. Twentytwo-spot ladybird <i>Thea 22-punctata</i>	●	Yellow with 20-22 (22) discrete black spots	Meadows and on herbaceous plants, particularly hogweed	In litter or grass tussocks at ground level	Widespread in Britain to Lancs and Yorks; scarce further N
22. Twentyfour-spot ladybird <i>Subcoccinella 24-punctata</i>	●	Russet with 0-24 (20) black spots; spots often fused; elytra hairy	Low growing vegetation	In litter or grass tussocks, usually close to ground	Widespread in S half of Britain; local in N; scarce in Scotland
23. Water ladybird <i>Anisosticta 19-punctata</i>	✳	Buff (late summer through to early spring), to red (spring and early summer) with 15-21 (19) black spots	On reeds, reed mace and other waterside vegetation	Between dead reed leaves and stems	Widespread in S & C England; scarce in N and Wales
24. Thirteen-spot ladybird <i>Hippodamia 13-punctata</i>	◆	Red with 7-15 (13) black spots	Vegetation in marshes or by water	Unknown in Britain	Extinct: colonies arise by immigration
25. Five-spot ladybird <i>Coccinella 5-punctata</i>	✳	Red with 5-9 (5) black spots	On unstable river shingles	Under shingle stones or on foliage close to river shingles	Local in W Wales, and the Spey Valley in Scotland
26. Bryony ladybird <i>Epilachna argus</i>	✳	Orange with 11 black spots; elytra hairy	On white bryony	In litter and ivy	Recent immigrant; local in S & W London; spreading

Identifying ladybirds

Many British ladybirds are easy to identify from their colour, pattern and size. Seven (the eyed, larch, striped, cream-streaked, hieroglyphic, fourteen-spot and Adonis' ladybird), although somewhat variable, should also be identifiable from the illustrations overleaf and the colour pattern notes in the table above. Five species are more problematic.

Two-spot, ten-spot and harlequin ladybirds are difficult because they are so incredibly variable in colour and pattern so that it is not easy to give a definitive description of them. The most common forms of each species are shown overleaf. For individuals of these species that are difficult to identify:

- The harlequin ladybird is larger (>5.5mm) than the other two

- The underside and legs of the two-spot are black; the underside of the ten-spot is partly orange or brown, and its legs are orange or brown.

The following points can help separate the seven-spot and scarce seven-spot:

- The middle spot on each elytron of the scarce seven-spot is larger than that of the seven-spot
- The scarce seven-spot is rather more dome-shaped than the seven-spot
- The clearest distinction is that the scarce seven-spot has a white triangular mark at the edge of the ventral surface (underside) under both the middle and hind legs. The seven-spot has these marks only under the middle pair of legs.

Feeding relationships

The dietary requirements of ladybirds are diverse but most species are quite specialist in their feeding habits. Many ladybirds are predatory, feeding on aphids (greenfly) or coccids (scale insects), but others feed on mildew (sixteen-spot, twentytwo-spot and orange ladybirds) and two species feed on plants (twentyfour-spot and bryony ladybirds).

Ladybirds display bright colours and exude reflex blood (foul tasting yellow fluid) when disturbed. This defence mechanism is very effective and only a few predators and parasites are associated with ladybirds including: birds that feed in flight, parasitoid wasps, mites, roundworms, fungal diseases and male-killing bacteria.

The harlequin ladybird

The harlequin ladybird originated in Asia but has been used as a biological control agent in the USA and mainland Europe. In 2004 the harlequin ladybird arrived in England, at first being found mainly in the southeast, having crossed the English Channel. It is now extending its range and is predicted to spread to most parts of the UK within a few years.

Two harlequin larvae eating a seven-spot larva



The harlequin ladybird has been described as the most invasive ladybird species on Earth and poses a serious threat to biodiversity. It is a large and voracious species and has the potential to out-compete native ladybirds and other insects for food. It is a more generalist feeder than most native ladybirds and can

turn to other food sources if aphids and coccids are limited, including the eggs and larvae of other insects (such as ladybirds and butterflies).

Many native ladybirds must undergo a period of winter dormancy before they can reproduce. In contrast, harlequin ladybirds can reproduce continuously through the spring, summer and even autumn, enabling populations to increase rapidly.

Which ladybirds are near you?

BBC Breathing Places is getting together with the UK Ladybird Survey to encourage everyone to Do One Thing for science by recording the ladybirds that they see. It is very easy to take part. All Breathing Places Schools receive an activity pack, including this guide, for surveying school grounds and learning about ladybirds. To become a Breathing Places School go to the web address below and follow the link to schools. For everyone else just go to the UK Ladybird Survey web site to find out how you can take part.

Hints and tips

- Look around broad-leaved plants where the ladybirds find food
- Some ladybirds look alike but their size might be the key to identification
- In some parts of the UK you may be first to record a harlequin ladybird

Further information

BBC Breathing Places www.bbc.co.uk/breathingplaces

UK Ladybird Survey www.ladybird-survey.org

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This special edition of the Field Studies Council's *Guide to the Ladybirds of the British Isles* has been created by the Field Studies Council (FSC) for BBC Breathing Places.

BBC
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places

BBC Breathing Places encourages people to *Do One Thing for Nature* on their doorsteps. The campaign involves a wide range of partner organisations in the UK who contribute their expertise and their time to help community groups, schools and the general public to make a difference.

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