

Ladybirds

of Southampton



Southampton Natural History Society

LADYBIRDS OF SOUTHAMPTON

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In memory of
Madge and David Goodall

2005 Southampton Natural History Society



Foreword

The Southampton Natural History Society (SNHS) was formed in the early years of the 20th century to observe and study the flora, fauna, geology and archaeology of the Southampton district.

The SNHS waned during the period of national crisis before, during and after the Second World War, but re-formed in around 1956. By this time the interest in archaeology had declined and the focus on geology reduced. Since then the main purpose of the SNHS has been to observe, study and record the flora and fauna of Southampton and the surrounding area, and we have also pursued an educational role. In 2003 we severed our historical links with the Quakers when we changed our indoor meeting venue from the Friends Meeting House in Ordnance Road to the Edmund Kell Hall in Bellevue Road in Southampton.

Following a period of high activity up to about 1984, the SNHS again began to decline through other competing interests, the advancing age of many of its members and the increasing difficulty in attracting younger people. However, in the last five to ten years we have re-grouped and, with the assistance of a strong committee, we have, amongst other things, initiated a series of detailed survey projects on various groups, especially insects. We have studied dragonflies and in 2005 we are launching a study of shieldbugs.

The Society holds an indoor meeting on the first Tuesday of every month from October to April, with speakers on many aspects of natural history. There are field meetings throughout the year. Membership is only £6 for an adult or £9.50 for a family (two adults and all children 11–16 years), for which you get free access to all meetings, a newsletter and an annual report. We also have a website (www.communigate.co.uk/hants/snhs/) with recent reports and photographs of wildlife in the area.

In 2004 we applied successfully for funding through the ‘Awards For All’ scheme to carry out a number of projects, including two practical workshops, the design and printing of a new membership leaflet, the acquisition of various study materials and the funding of an on-going ladybird project, focusing on the area within about ten miles of Southampton. This report is a summary of our findings from the ladybird survey carried out by our members, other naturalists and children’s groups in the Southampton area.

Even though we have now published this report we are still interested in your reports of ladybirds or any other wildlife in and around Southampton.

Philip Budd, Chairman of the Southampton Natural History Society

The SNHS Ladybird Project

The SNHS Ladybird Project is the first of several similar projects we are undertaking on certain under-recorded, but easily observable, groups of organisms in the Southampton area. As far as we are aware, no similar local projects on ladybirds have been undertaken elsewhere in the British Isles.

As indicated above, the funding for this project has been acquired through the National Lottery 'Awards For All' scheme. The production of this report is one of the benefits of this funding.

An initial analysis of ladybird records from the SHNS Field Meetings and individual members' records over many years has already provided a wealth of information on about twenty-one species of ladybird. To this we have added further data gathered from the on-going adult member and children's group surveys as well as targeted field visits carried out by various individual members. We have used 'Mapmate' software to monitor the distribution of the various species of ladybird and to target new areas requiring further survey work.

During the survey we have recorded details of specific host plants, habitats, habits, variations in markings and other information on ladybirds. We have included information from various referenced sources only when deemed necessary for completeness, and we have often updated this information in light of our own observations.

We hope that this project will stimulate further observation and study of our ladybird fauna and encourage groups in other areas to look more closely at these fascinating and popular insects. In addition, we hope to use this project to stimulate more interest from children and young people. Another benefit of this survey has been the collection of valuable records for other groups of insects.

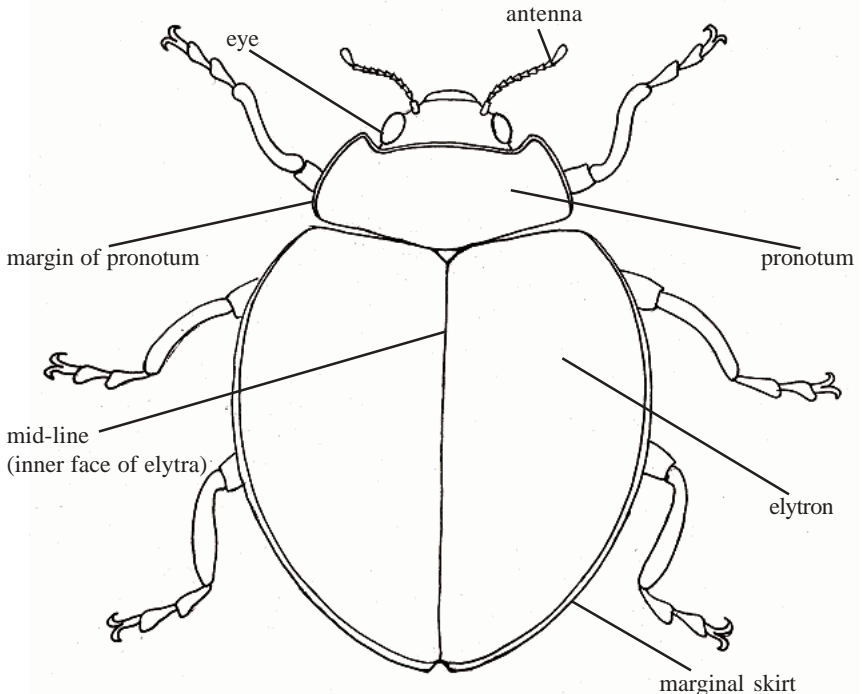
Acknowledgements

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What is a Ladybird?

The structure and classification of ladybirds

Ladybirds belong to the family Coccinellidae, which has more than 5,200 species throughout the world (Majerus, 1994). Fortunately only about forty-two species have been recorded in Britain, which makes them an ideal and manageable subject for study. A small number of additional species have been recorded as rare vagrants, escapes or introductions. The British species are all small to medium-sized beetles (1.3–10 mm). They are oval or hemispherical in shape, with a flat ventral surface and convex dorsal surface. Ladybirds have large compound eyes and their antennae usually have eleven segments. The mouthparts include large strong mandibles and the head can be partly withdrawn under a structure called the pronotum. The pronotum is a hard plate that covers the thorax. The pattern of markings on this structure provides the best means of identification of many ladybird species. Ladybirds have short legs that can be retracted into depressions under the body. The abdomen is covered by the elytra, which are the hardened forewings. The membranous hind wings fold away completely between the elytra and the dorsal surface of the abdomen, when the ladybird is not flying.



The British Coccinellidae comprises twenty-five genera and more than half of the species are brightly coloured and relatively easy to recognise. However, eighteen of our ladybirds belong to genera such as *Scymnus*, *Nephus* and *Rhizobius*—the micro-ladybirds. Aside from most of these being very small (less than 3 mm), they are largely black or brown with few markings or patterns and have dull colouration. The two British species of *Coccidula*, which fall within this group, are, however, brightly coloured but are also rather elongate, so are difficult to recognise as ladybirds.

The life history and biology of ladybirds

Ladybirds belong to the Endopterygota, the group of insects which undergo complete metamorphosis from the egg stage, through to larval, pupal and finally the adult (imaginal) stage. Ladybird eggs are oval in shape and smooth surfaced. They are laid in batches of 2–100 and tend to be yellowish in many species (ranging from off-white to dark orange). The larva emerges from the egg with the help of specialised structures on the head called egg-busters. Once hatched the function of the larva is essentially to eat and grow. Unlike most beetles the larval and adult-stage ladybirds eat the same food. Larvae, however, have a very different appearance, possessing elongate bodies, look matt rather than glossy and are covered in bumps that are sometimes rather spiky. In many of the larger ladybird species the larvae are grey or blue-grey overall, with white, yellow or orange abdominal spots. Larvae develop through four stages (instars) and at the end of each instar the skin is shed. The soft and pale new skin gradually hardens after the larva has taken in air to increase its body volume to allow further growth. The final larval moult which turns the larva into a pupa is preceded by a long period of up to several days in which the larva stops feeding and remains attached to a leaf or stem whilst in a hunched position (the ‘pre-pupal’ stage). Pupae vary in colour but are often well patterned. For example, the Orange Ladybird has strikingly jet-black pupae with bright yellow markings. Although this is a relatively inactive life stage in terms of movement, the pupae are often able to flick their abdomens if disturbed. This is thought to be an adaptation against parasites. The comparative inactivity externally is, of course, very different from the dramatic structural transformation occurring internally. Many larval tissues and organs are broken down and the products of this process contribute to the formation of all of the structures of the adult ladybird. This takes four to eight days.

The adult ladybird initially has dull-coloured, soft elytra that are expanded as haemolymph is pumped into them. After one hour the ladybird is ready for flight, but the full colouration of the elytra is not achieved for several days. Sometimes this process takes much longer. In fact, for the red-coloured species, the shade of

red may darken throughout the life of the ladybird. The body of the adult ladybird comprises the head, thorax and abdomen, as in all insects. The mouthparts are designed for biting, and the predatory and vegetarian ladybird species have somewhat different mouthpart structures. Ladybirds have large compound eyes, although the available evidence suggests that ladybirds do not have good vision. The hard and often brightly coloured and patterned elytra protect the delicate flight wings and abdomen and may have other roles in the biology of the insect, including some aspects of control in flight. The flight wings are remarkable in their function in accommodating the continual changes in aerodynamic forces as the ladybird undertakes its wing cycle.

The life of the ladybird

At the start of the year most ladybirds avoid the worst of the winter weather by finding a suitable sheltered spot. All of the British ladybirds spend the winter in the adult stage, although a few Orange Ladybirds may pass the winter in pupal state. Most of the predatory species of ladybird have retired to their winter quarters by September or October and will not eat again for five to eight months. However, the herbivorous species, such as 24-spot Ladybird and also mildew feeders (16-spot, 22-spot and Orange Ladybirds), may become active and feed during mild spells in the winter. Over-wintering sites vary considerably. The 7-spot Ladybird and others will select sites such as curled dead leaves, hollow plant stems, bark crevices and conifer foliage. Other species are more selective: the Water Ladybird hibernates in the dead leaf blades of reed mace and the 18-spot chooses the crowns of mature Scots pines. The 2-spot often selects buildings, including the cracks around window frames and cool rooms. Some species, such as the 16-spot, form large aggregations of several thousand on occasion.

Although the vegetarian species may be active throughout the winter, by February even some of the predatory species may appear. At this stage they often come out only to bask and it is not until April that they begin to disperse and search for mates. This coincides with increases in numbers of prey species such as aphids and coccids. Some species do not become active until late April, including the 14-spot and 11-spot, both of which feed on aphids, which suck the sap of herbaceous plants. The latest risers are usually the aphid-eating species that are associated with deciduous trees.

After emergence and feeding, ladybirds seek out mates, but appear to lack sophisticated long-distance attraction mechanisms, such as pheromones. However, they evidently succeed in locating each other and the results of these couplings are large numbers of egg batches laid on leaves, stems and tree trunks. Larvae emerge from the yellowish eggs and quickly seek out sources of food nearby.

Larvae grow quickly through stages, as previously outlined. By early June some species, such as the Pine Ladybird, will already have produced the first of the new generation of adults. But for most species June is the month for eggs and larvae and at this time the adults that survived the winter begin to die. If new adult ladybirds emerge at this early stage they may mature rapidly and become reproductively active, which may allow a partial second generation before winter. Most species, however, will not produce the next batch of adults until the middle of July to the middle of August, so there is insufficient time for a second brood. Adults emerging in this period concentrate on feeding up for the winter. At this time of year shortages of food (essentially lack of aphids) may prompt mass dispersal of ladybirds to seek food elsewhere. In the absence of good food sources, ladybirds may become inactive early. The first to move to wintering sites are usually the 2-spot, 10-spot and Pine Ladybirds.

How to Find Ladybirds

Everyone encounters ladybirds at some point during the summer. As summer progresses, the numbers of the commoner species build to such levels that they are hard to miss in our gardens and even inside homes and workplaces. Occasionally a hibernating individual may be found inside the home during the winter. The two commonest species, the red-and-black 7-spot and 2-spot Ladybirds are by far the most frequently seen, but black-and-yellow species such as the 14-spot Ladybird will also be familiar to many people. Some of the other species are much less often encountered by chance. A good way to track down a range of species (including Cream-streaked, Eyed, Pine, 10-spot and 18-spot) is to examine carefully the low hanging branches of Scots pine trees. The range of species utilising mature pines is impressive, but the small size of some of the species makes careful methodical searching necessary to avoid overlooking ladybirds. The tiny 18-spot can be challenging to find as it favours the crowns of mature pines; however, small numbers of insects can be found on lower branches on occasion. Other species, such as the Kidney-spot, can be found similarly by searching the branches of sallow trees. In addition, nettle beds can be very productive for finding a range of species.

Species such as Orange Ladybird are active at night and are attracted to lights. This species is the one most frequently encountered in mercury-vapour-based moth traps.

More methodical and efficient approaches to surveying ladybirds require the use of a sweep net and a beating tray. The former is a stout canvas net which can be drawn rapidly through herbaceous vegetation to sweep insects into the bag for

examination. This technique is also good for other species of invertebrates, including moth and butterfly larvae, spiders, other beetles and bugs. Species such as the 24-spot Ladybird that live in grasslands are best found in this way, and are easily overlooked otherwise.

A beating tray is a large, framed rectangle of canvas, which can be folded so it may be easily carried. The tray is held under the branches of a likely tree and the branches sharply tapped with a stick. This will dislodge a wide range of insects and spiders and often many ladybirds. Both beating trays and sweep nets can be obtained from entomological suppliers, although they would not be too difficult to make at home. Alternatives to professional beating trays (such as upturned umbrellas!) have also been used with success.

In the winter, when hibernating, ladybirds can be very difficult to find. Dry localities under logs and the bark of trees might be productive, but require persistence to enjoy a reasonable degree of success. Some species (such as 16-spot) hibernate in large aggregations of many individuals, although finding such sites requires experience and some luck.

How to Identify and Record Ladybirds

Recording ladybirds

When recording ladybirds, as for any other flora or fauna group, it is important that certain information is collected. This information is necessary to validate and trace the record and to input the information onto computer software packages. It is necessary to record the date, location, species and observer. Also the identifier/determiner needs to be recorded, if this person is different from the observer. When recording the species the proper scientific name is essential and the vernacular name is much less important. However, vernacular names can be used for all of the so-called 'macro'-ladybirds.

It is important to record the location of the sighting as accurately as possible. In an urban situation a street name, address or a specific public building can be used to identify the site sufficiently. However, in other circumstances a six-figure Ordnance Survey (OS) grid reference should accompany any site name. An OS grid reference to four figures is essential for the input of data onto software packages designed for this purpose. The date is straightforward, but it is not usually important to record the exact time. The only complication with regard to date occurs when a ladybird has been recorded in a moth, or other insect, trap during a previous night—when the date of the previous day should be recorded.

Other details, such as number of individuals, sex (difficult to determine in ladybirds), variety, host plant and observation method, are less important but provide useful information.

Identifying ladybirds

For a record to be valid, it is of course essential that a species name be provided. This requires a correct identification. Where identification is not 100% certain the record may still be useful, provided that the recorder has stated the uncertainty. Ladybird identification, at least of the macro-species, is relatively straightforward in most cases, but where uncertainty exists it is usual to collect a specimen or take a photograph so that the identification can be confirmed.

When identifying an unknown species of ladybird it is important to record the habitat and any host plant with which the insect is associated. As regards physical features the most important points to note are:

Size: Nearly all ladybird species are constant in size to the nearest 1 mm and no British species exceeds 9 mm (about 1/3 inch). Therefore, if your specimen exceeds 10 mm, or it is clearly half an inch or larger, it is not a ladybird.

Elytral markings: The markings on the wing cases of ladybirds tend to be very variable. However, except in those species with melanic forms, the background colour is reasonably constant at a species level. The number of spots is notoriously unreliable and should never be used to identify a species without considering other features. If a ladybird cannot be easily identified, it is useful to look for other more typical examples in the vicinity as the more variable species seldom occur singly.

Pronotum markings: These markings are much more constant in colour and shape than are the elytral features and in some species they are diagnostic.

Head markings: These are, if anything, even more constant than the pronotum markings but are more difficult to see. It is useful to employ a x10 lens when observing ladybirds so that head and pronotum markings can be clearly seen.

Ventral markings: When a ladybird is turned on its back the colour of the ventral side and the legs can be seen. The legs and the ventral surface tend to be the same colour and both tend to be constant in colour within the species.

The short key in the following section may be useful to identify any ladybirds that are not immediately recognisable. The line drawings and colour photographs in this report may also be useful. Although the key does not cover micro-ladybird identification, it should be possible to establish whether a specimen is a micro-ladybird or not.

An Identification Key to the Ladybirds of Southampton

(Note: This key would hold true for the rest of the British Isles although some species are rare or absent in Scotland and Ireland. It should not be used abroad.)



Eyed

same size as:

Striped

7-spot

Cream-streaked
Scarce 7-spot
Orange
Bryony
Harlequin

2-spot

Cream-spot
Adonis'
Larch
Kidney-spot
Hieroglyphic
11-spot

Water

10-spot
14-spot
16-spot
22-spot
24-spot
Heather

1. Ladybird is hairy and covered in a fine white down (use a hand lens) GO TO 2
Ladybird is glabrous with no hairs visible even under a lens GO TO 3
2. Size > 4 mm (1/6 in), pale bright orange with black spots **BRYONY LADYBIRD**
Size < 4 mm (1/6 in), dull orange or reddish GO TO 4
3. Size < 3 mm (1/8 in) and details difficult to see without a lens **A MICRO-LADYBIRD**
Size > 3 mm (1/8 in) and details usually easy to see with naked eye GO TO 5
4. Size 3 mm (1/8 in), dark red, usually with numerous black spots **24-SPOT LADYBIRD**
Size < 3 mm (1/8 in), dull orange to brownish or blackish **A MICRO-LADYBIRD**

5. Colour mostly black except for white markings on pronotum
HIEROGLYPHIC LADYBIRD (MELANIC)
 Colour black with bright red spots or markings GO TO 6
 Colour orange to brown with white spots or markings GO TO 7
 Colour pale or yellow with dark or black spots or markings GO TO 8
 Colour red or reddish with dark or black spots or markings GO TO 9
6. Broad 'skirt' visible around edge of body and obvious flat edge to pronotum GO TO 10
 Not showing the above features GO TO 11
7. Size > 7 mm (1/3 in), colour caramel brown with white markings, pronotum brown in the middle and white on both sides **STRIPED LADYBIRD**
 Size 6–7 mm (1/4 in), colour orange with white spots and clear marginal skirt **ORANGE LADYBIRD**
 Size < 6 mm (1/4 in), colour chocolate brown with white spots GO TO 12
8. Colour pale yellowish or pinkish brown with some faint dark markings and a characteristic dark V mark on pronotum **LARCH LADYBIRD**
 Colour pale pinkish, pale yellowish or yellow with black spots or markings and no dark V on pronotum GO TO 13
9. Colour of pronotum white with black spots, colour of legs yellow brown GO TO 14
 Colour of pronotum black with white markings not marginal GO TO 15
 Colour of pronotum black with white margin **ADONIS' LADYBIRD**
10. Size 3 mm (1/8 in), colour of head is dark red (use a lens) **HEATHER LADYBIRD**
 Size 4–5 mm (1/6 in), colour of head is black (use a lens) GO TO 16
11. Size > 5 mm (1/5 in), pronotum black in the middle and white on both sides **HARLEQUIN LADYBIRD (MELANIC)**
 Size < 5 mm (1/5 in), colour of legs and ventral side is black **2-SPOT LADYBIRD (MELANIC)**
 Size < 5 mm (1/5 in), colour of legs and ventral side is yellow brown **10-SPOT LADYBIRD (MELANIC OR CHEQUERED)**
12. Pronotum with white edge, also a white W mark on elytra **18-SPOT LADYBIRD**
 Pronotum lacking white edge and all white markings are spots **CREAM-SPOT LADYBIRD**
13. Pronotum black with broad yellow margins, overall colour of ladybird black and yellow **14-SPOT LADYBIRD**
 Pronotum pale with black spots, overall colour of ladybird various GO TO 17

14. Size > 5 mm (1/5 in), two black spots on head between eyes (use lens)
4-SPOT (= CREAM-STREAKED) LADYBIRD
 Size < 5 mm (1/5 in), head between eyes is white (use lens)
10-SPOT LADYBIRD
15. Size 9 mm (1/3 in), pronotum with white front margin and white crescents either side
EYED LADYBIRD
 Size <8 mm (1/3 in), pronotum black in the middle and white either side
 GO TO 18
 Size <8 mm (1/3 in), pronotum black with white squares on forward corners
 GO TO 19
16. Colour black with two large oval red spots **KIDNEY-SPOT LADYBIRD**
 Colour black with four red spots, two of them comma shaped **PINE LADYBIRD**
17. Colour lemon yellow with black spots, no black mid-line (inner edge of elytra)
22-SPOT LADYBIRD
 Colour pale pinkish to pale red with black spots and no black mid-line
WATER LADYBIRD
 Colour cream to pale yellow with black spot and black mid-line
16-SPOT LADYBIRD
18. Size >5 mm (1/5 in), elytra with 4 to 16 black spots, head white between eyes
HARLEQUIN LADYBIRD
 Size <5 mm (1/5 in), elytra with 2 black spots, head black between eyes
2-SPOT LADYBIRD
19. Size <6 mm (1/4 in), colour pale reddish brown or tan with black spots and stripes
HIEROGLYPHIC LADYBIRD
 Size <6 mm (1/4 in), colour bright red with (usually) nine or eleven black spots
11-SPOT LADYBIRD
 Size 6 mm (1/4 in), colour bright red with (usually) seven black spots GO TO 20
20. Ladybird not found in the vicinity of Wood Ant *Formica rufa* nests
7- SPOT LADYBIRD
 Ladybird found in woodland or heathland near Wood Ants *Formica rufa* GO TO 21
21. Four white spots present on ventral side in the sockets of the front and middle pairs of legs, a rare species
SCARCE 7-SPOT LADYBIRD
 Two white spots present on ventral side in the sockets of the first pair of legs only, a very common species
7-SPOT LADYBIRD

Ladybird Habitats in Southampton

Broadleaf trees/woodland

Typical ladybirds:

10-spot, 7-spot, Cream-spot, Orange and Kidney-spot

Most of the woodland in and around the city is of this type. This habitat represents the remains of the prehistoric natural vegetation of the area. Old oak and holly woodland is concentrated on Southampton Common, but there are other areas of oak woodland mixed with other trees at, for example, Home Covert (Nursling), the western side of Lord's Wood, Bassett Wood, Hardmoor Copse, Frog's Copse, Westend Copse, West Wood, Manor Farm Country Park and Prior's Hill Copse. Smaller quantities of beech woodland, associated with gravelly soils, occur at Hollybrook, Kendall's Wood (Thornhill) and Mayfield Park. Sweet chestnut plantations occur in various places in the north of the city and at Telegraph Woods, West End. Damp woodlands consisting of willow, alder and downy birch dominate the valleys, such as the Test Valley, the Itchen Valley, Lordsdale, Monks Brook, Marlhill Copse, Shoreburs and the part of West Wood along the Tickleford Gully.

Coniferous trees/woodland

Typical ladybirds:

Larch, 10-spot, 7-spot, Scarce 7-spot, Cream-streaked, 18-spot, Cream-spot, Striped, Eyed, Heather and Pine

The main conifer plantations consist of species such as Douglas fir, Western red cedar, hemlock-spruce and various species of spruce, larch and pine. These provide excellent ladybird habitats and occur at Lord's Wood, Rownhams Plantation, Hut Wood, Luzborough Plantation, Itchen Valley Country Park and Telegraph Woods. Naturalised, or planted, stands of Scots pine occur on heathy soils on the edge of the New Forest, in the Chilworth area, on parts of Southampton Common and in the Thornhill and Netley Common areas.

Heathland

Typical ladybirds:

7-spot, Scarce 7-spot, Cream-streaked, Eyed, Kidney-spot, Heather, Pine and, potentially, Hieroglyphic

Heathland once dominated the eastern side of Southampton and was commoner on the northern edge of the city too, but now very little remains. In the east most of the heathland is around Netley Common and Hamble Common, at the latter there is Cross-leaved Heather *Erica tetralix* only. Elsewhere there are small pockets on Southampton Common, in Hut Wood, around Chilworth, in the Sports

Centre and Hollybrook Cemetery, in the Dibden Purlieu area and on private land at Stoneham Park. Damp heathland and valley mires are even rarer and survive mainly at Forest Front (Hythe), Dumbleton's Copse (Thornhill), Peewit Hill and further afield at Emer Bog/Baddesley Common.

Dry grassland

Typical ladybirds:

24-spot, 16-spot, Adonis', 2-spot, 7-spot, 11-spot, 14-spot and 22-spot

Much of grassland in the Southampton area is heavily mown amenity grassland and formal parkland/lawns. This provides very limited habitats for ladybirds. Most of the less heavily managed drier grassland in the city is associated with at least mildly acidic soil. Some of the sites on made-up ground or where there has been interference with the natural soil can be slightly alkaline and provide a different habitat. Good examples of alkaline grassland are mostly in the east of the city at Peartree Green, the Mansbridge area, Lakeside Park and at the Grange Fields, Netley. Acidic grassland habitat is widespread and is present in most of the cemeteries and churchyards in Southampton as well as on Southampton Common, at Weston Common, in the Hightown area and at Royal Victoria Country Park (Netley).

Damp grasslands, marsh and saltmarsh

Typical ladybirds:

24-spot, 16-spot, Water and 22-spot

Various types of marsh habitat, such as reed beds, sedge beds, *Typha* beds and mixed wet grassland, are concentrated in the main river valleys of the Itchen and the Test, with good examples at Testwood Lakes, Lower Test Reserve, Mansbridge Marsh and Itchen Valley Country Park. Other examples occur along the Bartley Water at Totton, Bury Marsh (Marchwood), the Monks Brook Greenway, Lakeside Park (Eastleigh) and at Bursledon. Additionally, there are some good examples of saltmarsh remaining in the Southampton area such as at Hythe Spartina Marsh, Eling Great Marsh, parts of Lower Test Reserve and at Hackett's Marsh and Mercury Marsh along the Hamble. There is a small remnant of this habitat at Chessel Bay in Southampton.

Cultivated land and gardens

Typical ladybirds:

2-spot, 10-spot, 7-spot, 14-spot, Pine and Orange;
potentially, **Bryony and Harlequin**

These are very widespread habitats in this area. There are twenty-three allotment gardens within Southampton and several in Totton, Eastleigh and Hamble, for

example. Areas of market garden land are mostly further afield, but some good examples of this habitat exist at Lord's Hill, near to Fair Oak and between Netley, Hamble and Bursledon.

Bare ground and dry coastal habitats

Typical ladybirds:

16-spot, Adonis, 7-spot and 11-spot

This is a somewhat limited habitat in the Southampton area. Bare land exists sporadically around the central parts of the city and along railway lines. Examples include Mayflower Park, Redbridge Wharf Park, parts of the Northam area and along the Hamble Rail Trail. Coastal shingle and dry grassland is present along Dibden Bay, at Marchwood, Goatee Shore at Eling, Windy Bay (Northam), Chessel Bay, and along the shore from Weston to Hamble Point.

To join Southampton Natural History Society

Adult: £6

Family membership (2 adults and all children 11–16 years): £9.50

Send a cheque made out to Southampton Natural History Society to:

The Membership Secretary
Mrs B. Thomas
40 Mon Crescent
Southampton
SO18 5QU

Individual Species Accounts

All the macro-species have been illustrated in colour on the centre pages except Scarce 7-spot, Hieroglyphic and Harlequin Ladybirds.

- = Likely to occur in gardens
- o = Possible in gardens, especially gardens near woodland
- ⊗ = Unlikely to occur in gardens
- ☾ = May fly at night and be recorded at light.

IVCP = Itchen Valley Country Park

LTR = Lower Test Reserve

RVCP = Royal Victoria Country Park

SOC = Southampton Old Cemetery (Southampton Common)

24-spot Ladybird *Subcoccinella 24-punctata* ⊗

Status & Distribution: Locally common. Most frequently seen in the Hamble, Netley and Bursledon areas.

Habitat: Tall grassland, either dry or damp. Sometimes found in marshes but not coastal salt marshes.

Food sources: A vegetarian species. Actually eats the leaves of clovers, vetches, grasses, etc. We have found it on Yorkshire Fog Grass *Holcus lanatus* and Cock's-foot Grass *Dactylis glomerata*.

Over-wintering sites: Low down in dense vegetation.

Where to look: IVCP, Mallards Moor (Hamble), RVCP and SOC.

When to look: May to October (long season).

Identification: Size: 3 mm (1/8 in). Legs: brown. Pronotum: uniform dull reddish-brown with dense down. A rare variant, with no spots but dark edges to the elytra, was found at Caerleon Avenue, Bitterne in 2004. Normally there are about twenty black spots despite the common name, although some (usually four or six) of these spots may be fused. A few of the spots are narrowly oval, but most are round. The central spots are most often fused.

Individual Records: Mallards Moor, Hamble (08/08/1997), RVCP (07/07/2000), SOC (04/08/2000), Caerleon Avenue, Bitterne (29/10/2004), Peartree Green (05/04/2005), Priddy's Hard, Gosport (13/04/2005) and the Grange Fields, Netley (02/05/05).

***Rhyzobius* (= *Rhizobius*) *litura* (no English name—a micro-ladybird) o**

Status & Distribution: Probably widespread but insufficient information on this overlooked species. Seems to be one of the two commonest of the micro-ladybirds.

Habitat: Said to be associated with grassland and nettle beds, but we have found it in hedgerows with mixed deciduous trees and shrubs. We have also found it on larch *Larix sp.*

Food Sources: Aphids, pollen and certain fungi.

Over-wintering sites: Usually low down in dense vegetation or amongst plant roots.

Where to look: Marlhill Copse/Gregg School at Townhill Park and West Wood, Netley.

When to look: April to July at least.

Identification: Size: 2.5–3 mm (1/8 in). Legs: dull orange. Pronotum: Dull orange-brown with fine down. The elytra are of a similar dull orange background colour but there is a constant large U-shaped dark brown mark in the middle. This marking is characteristic of this species. There is a fine white down on the elytra.

Individual Records: Holy Family School, Redbridge (03/06/1986), West Wood, Netley (17/04/1987) and Gregg School, Townhill Park (05/04/2005).

***Scymnus suturalis* (no English name—a micro-ladybird) o**

Status & Distribution: Probably widespread, but insufficient information on this overlooked species. Seems to be one of the commoner of the micro-ladybirds in Britain.

Habitat: Mainly associated with conifers and especially associated with pines. We have found it on Sallow *Salix cinerea* and Hawthorn *Crataegus monogyna*.

Food Sources: Aphids and related insects.

Over-wintering sites: Probably amongst the needles of pines.

Where to look: Probably anywhere there is sallow, hawthorn or pine.

When to look: April onwards.

Identification: Size: 2.5 mm (1/10 in). Legs: orange-brown. Pronotum: Dull orange-brown with fine down. The elytra are mainly dark orange-brown (darker than pronotum) and darker, almost blackish along edge of elytra and towards the rear. There is a fine down over the whole elytra and legs. Another feature of this tiny ladybird is that it is particularly active and takes flight readily.

Individual Records: Forest Front Reserve, Hythe (10/04/2005), Peartree Green (05/05/2005) and Caerleon Avenue, Bitterne (11/05/05).

16-spot Ladybird *Micraspis 16-punctata* ⊗

Status & Distribution: Commonest in the main river valleys (Test, Itchen and Hamble), but also occurs sporadically elsewhere. In Hampshire as a whole it seems to be commoner near to the coast.

Habitat: Prefers the damper grassland and wet meadows in river valleys. Also found in coastal salt marshes and in dry grassland on made-up ground. Also a

common ladybird in chalky districts, but it clearly avoids acidic grassland as proven by its absence from the intensively surveyed RVCP.

Food sources: A vegetarian. Mainly feeds on the greyish mildew fungi found on certain plants. We do not have any information regarding associated plant species.

Over-wintering sites: Very varied. Often low down in dense herbage but also under loose bark or logs or even in the open on fence posts, etc. We have found it on fence posts, under woody debris, under the bark of willow *Salix sp.*, and inside the dead leaves of Creeping Thistle *Cirsium arvense*. A characteristic of this species is that it sometimes over-winters in very large aggregations.

Where to look: Grange Fields (Netley), LTR, Lakeside Park (Eastleigh), Peartree Green and suitable sites along the river Hamble

When to look: Any time, but active mainly from April to September.

Identification: Size: 3 mm (1/8 in). Legs: dull yellow. Pronotum: dull yellow with several black spots. This species is very constant in appearance in our experience. There is always a black inner edge to the elytra (showing as a black mid-line). There are usually about ten unconnected black spots on the elytra (five on each elytron). A wavy band consisting of three fused spots is a characteristic feature on each elytron. The background colour is a characteristic pale straw colour or yellowish cream.

Individual records: LTR (13/04/1991), Mercury Marsh, Hamble (10/09/2001), Pudbrook Lake Meadow, Botley (15/07/2002), Grange Fields, Netley (19/07/2002 and 02/05/05), Lakeside Park, Eastleigh (08/08/2002), Old Bursledon Nature Haven (31/10/2004) and Peartree Green (05/05/2005).

Adonis' Ladybird *Adonia variegata* ⊗

Status & Distribution: Rare in the Southampton area. It is fairly common around Gosport and Portsmouth. Also sometimes found inland on the chalk. In Britain as a whole this species is sufficiently uncommon to be rated Nationally Notable Nb (Nationally Scarce).

Habitat: Dry grassland and brown-field sites with bare areas. Requires hot and dry conditions in Britain. We have found it on Orache *Atriplex sp.* and Goosefoot *Chenopodium sp.*

Food sources: Mainly aphids.

Over-wintering sites: Unknown

Where to look: There are no definite colonies found in Southampton, but it is well known from the Browdown area near Gosport. Potential sites include Dibden Bay and Peartree Green.

When to look: May to October, peaking in August.

Identification: 4–5 mm (1/5 in). Legs: dark brown. Pronotum: black with white all around the edge. This ladybird is less rounded than most. The elytra are quite



24-spot



18-spot



24-spot, unspotted



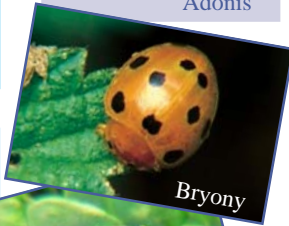
Adonis'



Cream-spot



16-spot



Bryony



14-spot



16-spot aggregation



Larch



Striped



Water



Cream-streaked or 4-spot



Eyed



typical



2-toned



yellow spots



light spotting



multi-coloured

Varieties of 10-spot



pale



faint spotting



chequered



melanic



unspotted





7-spot



7-spot eggs



11-spot

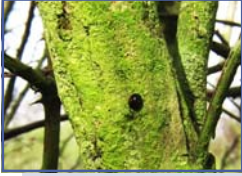


Varieties of 2-spot



2-spot melanic





Kidney-spot



Pine



Heather



Orange



22-spot

Confusion species



Poplar leaf beetle



Cassida fastuosa



Rhyzobius litura



Scymnus haemorrhoidalis



Scymnus suturalis



Scymnus nigrinus

Micro-ladybirds

bright tomato-red with normally five or seven black spots. The largest spot is rather square-shaped and positioned on the front end of the mid-line. Usually all the other spots, which are round or oval, are positioned on the rear half. We have found a variant all the spots are in the front half of the elytra and there can be additional small spots, for example over seven in total.

Individual records: Exton, Corhampton (23/06/1996), Browndown (12/09/2002), Paulsgrove (29/05/2002), Priddy's Hard, Gosport (05/05/2005). Also an isolated record at Mon Crescent, Bitterne (15/06/2004), possibly transported from elsewhere.

Water Ladybird *Anisostica 19-punctata* ⊗

Status & Distribution: Uncommon, but present in the Itchen and Test Valleys and also on the edge of the New Forest. This a common species at Stanpit Marsh, Chistchurch.

Habitat: Reed and sedge beds plus tall grassland in marshy places especially in saltmarshes. We have found it mostly on Common Reed *Phragmites australis*, Sea Club Rush *Bolboscuoenus maritimus* and Reed Mace *Typha latifolia*. However, we have recorded it on Sallow *Salix cinerea* on damp heathland, with Purple Moor Grass *Molinia caerulea* in the vicinity.

Food sources: Not well known, but probably aphids. We have observed this ladybird feeding on the eggs of the Chrysomelid (leaf) beetle *Galerucella sp.* Since *Galerucella* sometimes favours sallow species, this might explain the occurrence on this tree.

Over-wintering sites: In the stems of reeds, reed maces, etc.

Where to look: IVCP, Mansbridge area and LTR.

When to look: April to mid-September.

Identification: 3 mm (1/8 in). Legs: pale brown. Pronotum: dull pale pinkish with black spots. The elytra are a dull pale pinky orange or pinkish buff in colour with usually nineteen densely packed, but separate, black spots. When this ladybird emerges from hibernation the colour tends to be pale yellowish; the pinkish colour develops later. The body is distinctly elongate in shape. The head is interesting: it is black with an orange ivy-leaf-shaped marking in the front and between the eyes. A hand lens is required to appreciate this feature.

Individual records: Mansbridge (1997), LTR (15/09/1991), Stanpit Marsh, Christchurch (09/04/2004) and Forest Front Reserve, Hythe (10/04/2005).

Larch Ladybird *Aphidecta oblitterata* ⊗ ☽

Status & Distribution: Previously thought to be rare, but now considered to be fairly common in the Southampton area. This species is probably under-recorded in the northern parts of the area.

Habitat: Associated with conifers and recorded on Deodar Cedar *Cedrus deodora*, Douglas Fir *Pseudotsuga menziesii*, Scots Pine *Pinus sylvestris* and Norway Spruce *Picea abies* in our area. We have not yet found it on larch *Larix sp.*

Food sources: Aphids and adelgids (insects related to aphids).

Over-wintering sites: In the bark crevices of coniferous trees.

Where to look: North Baddesley area, Telegraph Woods, Marlhill Copse at West End, Botley area and RVCP.

When to look: April to October.

Identification: Size: 5 mm (1/5 in). Legs: yellow. Pronotum: pale yellow with a distinctive dark 'V' and usually other faint dark marks. The elytra vary from a pale straw yellow to a pale dull pinkish or brown. They are either virtually unmarked or show two or four elongate dark markings or spots towards the lower outer edge of the elytra. There is usually a darker mid-line (inner edge of elytra). This ladybird is slightly ovoid in shape, that is, it is not very circular.



Individual records: Caerleon Avenue, Bitterne (13/10/1986), RVCP (15/05/2000), Luzborough Plantation, North Baddesley (18/03/2005), Manor Farm Country Park (02/04/2005), Marlhill Copse (05/04/2005) and Telegraph Woods (01/05/05 and 05/05/2005).

2-spot Ladybird *Adalia bipunctata* • ☺

Status & Distribution: Widespread and common except in large wooded areas.

Habitat: Gardens, allotments, market gardens, parks, urban greenways and brown-field sites. We have found this species on a wide variety of plants. These include coniferous trees such as Lawson's Cypress *Chamaecyparis lawsoniana* and Monterey Pine *Pinus radiata*. Also broadleaf trees and shrubs such as apple *Malus sp.*, Aspen *Populus tremula*, *Berberis sp.*, birch *Betula sp.*, *Buddleia davidii*, firethorn *Pyracantha sp.*, Gorse *Ulex europaeus*, mock orange *Philadelphus sp.*, pear *Pyrus sp.*, and rose *Rosa sp.* Also more occasionally on herbaceous plants such as Broad Bean *Vicia faba*, Runner Bean *Phaseolus coccineus* and Teasel *Dipsacus fullonum*.

Food sources: Aphids.

Over-wintering sites: Very varied and including fences and under bark. We have found it hibernating inside the shrivelled dead leaves of *Buddleia*.

Where to look: Any suitable habitat. Private gardens are as good as anywhere.

When to look: Any time, but commonest from April to July.

Identification: Size: 4–5 mm (1/6 to 1/5 in). Legs: black. Pronotum: uniform black in melanic forms, but usually black with two large white ovals on either

side. This is a somewhat variable species, but the usual form in Southampton is a clear bright red with two circular or pear-shaped black spots. We have also found specimens with large ivy-leaf-shaped spots and sometimes an extra pair of small spots. A minority of individuals are melanic and in these the shiny black elytra have four rather large bright red spots. Two of these spots are circular and positioned towards the rear whilst the other two, on the front corners, are rather square-shaped. Intermediates between these two forms might occur much more rarely.

10-spot Ladybird *Adalia 10-punctata* • ☽

Status & Distribution: Widespread and common (but under-recorded in some areas).

Habitat: Coniferous or deciduous woodland or isolated trees/shrubs. Particularly favours honeysuckle *Lonicera sp.* and small deciduous trees that retain their dead leaves. We have found this species in certain coniferous trees such as Monterey Pine *Pinus radiata*, Norway Spruce *Picea abies* and Yew *Taxus baccata*. This ladybird is found on broadleaf trees and shrubs such as Aspen *Populus tremula*, Beech *Fagus sylvatica*, birch *Betula sp.*, Cherry *Prunus avium*, Evergreen Oak *Quercus ilex*, Gorse *Ulex europaeus* and Honeysuckle *Lonicera periclymenum* just as commonly.

Food sources: Aphids.

Over-wintering sites: Leaf litter, especially hanging dead leaves. We have found this ladybird over-wintering inside the husks of beech mast and also on the still-attached dead leaves of Beech *Fagus sylvatica*, Honeysuckle *Lonicera periclymenum* and larch *Larix sp.*

Where to look: Any woodland area. Sometimes in garden trees, shrubberies or hedges.

When to look: Any time, but mostly March to November (long active season).

Identification: Size: 3–4 mm (1/8 to 1/6 in). Legs: yellowish brown. Pronotum: very variable, either white with black spots, black with white markings or edging, or all black. This is the most variable of all ladybird species in Southampton. The main forms are as follows:

Decempunctata: 50% (half) are of this form. The background is usually a pale reddish orange or a deep orange with yellow streaks, there are anything up to twelve small dark brown or reddish brown spots. Sometimes some of these spots are fainter than others and occasionally there are no spots at all.

Decempustulata: 25% (a quarter) are of this form. There is a chequered pattern with a brown or blackish grid on a dull yellowish, pinkish or reddish background. The more brightly marked individuals of this form are very attractive and we

have seen colourful examples with a black grid and red spots or a caramel-brown grid with butter-yellow spots.

Bimaculata: 25% (a quarter) are of this form. This variety is largely dark orange-brown to black with two rather triangular or crescent-shaped, usually dull reddish or yellowish markings near to the front corners. This form often shows a pale margin to the black pronotum.

7-spot Ladybird *Coccinella 7-punctata* •

Status & Distribution: Widespread and very common.

Habitat: Almost any habitat, but there is a strong affinity for evergreen plants. In the spring this species is found in large quantity on gorse bushes, but by May nettle beds are favoured. We have also found this ladybird on various tree and shrub species, such as *Cotoneaster sp.*, Douglas Fir *Pseudotsuga menziesii*, larch *Larix sp.* and *Wisteria sp.* However, it is more commonly found on herbaceous plants and we have found it on *Aquilegia sp.*, Coltsfoot *Tussilago farfara*, comfrey *Symphytum sp.*, daffodil *Narcissus sp.*, lupin *Lupinus sp.*, ox-eye daisy *Leucanthemum sp.*, *Primula sp.*, sunflower *Helianthus sp.*, Teasel *Dipsacus fullonum*, thistle *Cirsium sp.* and Tomato *Lycopersicon esculentum*.

Food sources: Aphids.

Over-wintering sites: Very varied, but usually near ground level. Gorse *Ulex sp.* bushes and tufted plants are favoured. We have found them inside clumps of Pampas Grass *Cordatella selleana*.

Where to look: Anywhere and everywhere!

When to look: Any time. This is the most likely ladybird to see on mild, sunny winter days.

Identification: Size: 6–7 mm (1/4 in). Legs: black. Pronotum: black with two white squares in forward corners. There are almost always the characteristic seven black spots on the unvarying bright blood-red elytra; usually the central pair of spots is the largest. One of the less variable species of ladybirds, although the size of the spots does vary and a five-spotted variant was seen at Dibden Purlieu in 2004.

Scarce 7-spot Ladybird *Coccinella magnifica* ⊗

Status & Distribution: An apparently rare species. We have only one record. In Britain as a whole is rare enough to be classified as Nationally Notable Na (Nationally Scarce).

Habitat: Coniferous woodland and heathland, always near to the nests of Red Wood Ant *Formica rufa*, but never in them.

Food sources: Probably aphids.

Over-wintering sites: Usually gorse bushes or bracken litter.

Where to look: Telegraph Woods (West End). Potentially also Hut Wood, Lord's Wood, and Netley Common. Known to occur in parts of the New Forest.

When to look: Probably any time in spring or summer.

Identification: Size: 6 mm (1/4 in). Legs: black. This species is very similar to the vastly commoner 7-spot Ladybird. It is reliably distinguished by the fact that there are white spots in the ventral sockets of the middle pair of legs as well as in those of the front pair. This species is also somewhat more circular in shape and is more convex (higher backed) than the common 7-spot. Furthermore, the two central black spots are always much larger than the rest and certainly at least twice the size of the head.

Individual records: Telegraph Woods at West End (08/07/1996).

11-spot Ladybird *Coccinella 11-punctata* ⊗

Status & Distribution: Apparently rare, with just one known city-centre site. Elsewhere in Hampshire it is mainly coastal and is common in the Keyhaven to Lepe area and from Gosport eastwards.

Habitat: Dry, bare and stony places. These habitats include disused railway lines, shingle beaches and bare chalk or chalk rubble in inland areas.

Food sources: Aphids.

Over-wintering sites: In plant litter, possibly under stones.

Where to look: Mayflower Park, although the actual site has recently been covered in topsoil. Apparently suitable habitat exists at Chessel Bay, Goatee Shore (Eling), Peartree Green, Weston Shore and the coast at Marchwood.

When to look: April to June and again in August and September.

Identification: Size: 4 mm (1/6 in). Legs: black. Pronotum: black with two white squares in forward corners. This ladybird is similar to the common 7-spot in its pronotal markings. This species is distinguished by the small size, the more elongated shape and the fact that there are usually nine to eleven rather large black spots on the deep blood-red elytra.

Individual records: Keyhaven (24/08/1984), IBM at North Harbour, Cosham (10/06/1996), Lepe (14/08/1996), Mayflower Park (08/04/1991), Morn Hill east of Winchester (13/06/2001), Browndown (25/04/2004) and Priddy's Hard, Gosport (05/05/2005).

Cream-streaked or 4-spot Ladybird *Harmonia 4-punctata* ○ ∩

Status & Distribution: Widespread and uncommon or overlooked. This species was first recorded in Britain (Suffolk) in 1937 and not recorded in Hampshire until 1983.

Habitat: Coniferous trees especially in open places like parkland or heathland. We have recorded it on Scots Pine *Pinus sylvestris*, Hemlock-spruce *Tsuga canadensis* and Deodar Cedar *Cedrus deodara*.

Food sources: Aphids on conifers.

Over-wintering sites: The bark of conifers.

Where to look: Chilworth area, RVCP and SOC. Often flies at night and one of the commonest ladybirds at moth lamps in the New Forest.

When to look: May to September. This species seems to emerge late in the spring and had not yet been seen in 2005 by 15th May.

Identification: 5–6 mm (1/4 in). Legs: yellowish-brown. Pronotum: white with usually at least eight black spots. This variable ladybird has two common forms: one has about sixteen or eighteen black spots of variable size and the other has four black spots, a pair on the lower outer edge of each elytron; however, intermediates may occur. The background is ‘tomato ketchup’ red with variable yellowish mottling, most often concentrated in two longitudinal bands. Specimens that we have found always appear to show a marginal skirt (lower edge of elytra) with black and dark spots along it.

18-spot Ladybird *Myrrha 18-guttata* o D

Status & Distribution: Common in the wooded high ground on the eastern edge and occurs on Southampton Common, but not found so far in apparently suitable habitat to the north of the city.

Habitat: Exclusively associated with Scots Pine *Pinus sylvestris*, either in woodland or trees in the open. Most of our records are from Scots pine and mostly on isolated trees in open situations. However, we have two records of this species on Monterey Pine *Pinus radiatus* and one record on Corsican Pine *Pinus nigra ssp. laricio*.

Food sources: Aphids on pine trees.

Over-wintering sites: In the bark crevices or dense foliage of Scots pine.

Where to look: Bursledon area, Netley Common, SOC, Telegraph Woods and Warsash.

When to look: May to September. Seems to emerge late in the spring.

Identification: Size: 5 mm (1/5 in). Legs: brown. Pronotum: brown with white edges and two white spots on rear edge. This species shows a variable number, usually ten, of striking white spots on a rich brown background. It is similar to the Cream-spot Ladybird, but the body is more ovoid and there is a distinctive white ‘M’ or ‘W’ in the middle of the front end of the elytra. This consists of a number ‘2’-shaped mark on each elytron. Another constant feature of this species is the presence of two white spots between the eyes.



Individual records: Caerleon Avenue, Bitterne (25/06/1986), Windover area of Bursledon (30/07/1992, 05/06/2004), SOC (04/08/2000), Netley Common

(06/05/2001), Telegraph Woods at West End (11/07/2004), Cunningham Crescent, Sholing (09/09/2004), Warsash (19/09/2004) and south of Hythe (10/04/2005).

Cream-spot Ladybird *Calvia 14-guttata* •

Status & Distribution: Widespread and common (but under-recorded in Totton and Waterside).

Habitat: Coniferous or deciduous woodland or isolated trees/shrubs. Particularly favours honeysuckle *Lonicera sp.* and small deciduous trees that retain their dead leaves. We have recorded this species on a wide variety of coniferous and broadleaf trees and shrubs including Aspen *Populus tremula*, Beech *Fagus sylvatica*, Blackthorn *Prunus spinosus*, *Escallonia sp.*, Gorse *Ulex europaeus*, Hawthorn *Crataegus monogyna*, Hornbeam *Carpinus betula*, Honeysuckle *Lonicera periclymenum*, Norway Spruce *Picea abies*, Scots Pine *Pinus sylvestris* and Yew *Taxus baccata*. Not often found on herbaceous plants, but we have recorded it on ragwort *Senecio sp.*

Food sources: Aphids.

Over-wintering sites: Under bark or in bark crevices. We found this ladybird over-wintering in leaf litter on the ground and in small crevices in brick walls.

Where to look: Hardmoor Copse, Luzborough Plantation and Lord's Wood to the north of the city. Also likely to be seen in suburban gardens around the edge of Southampton.

When to look: March to October (long season).

Identification: 5 mm (1/5 in). Legs: brown. Pronotum: brown with a bright white spot in each rear corner and a thin white margin on outer edge. On the elytra of this ladybird there are usually fourteen bright white spots on a rich chocolate-brown background, these spots are round and the rear ones are generally the larger. We have not noticed much variation in this species. This species is more circular in outline than the superficially similar 18-spot Ladybird. This ladybird has a black head, unlike the 18-spot Ladybird.



14-spot Ladybird *Propylea 14-punctata* •

Status & Distribution: Widespread and common.

Habitat: Nettle beds, enriched grassland, farmland, cultivated land, gardens and allotments. This species has a very strong affinity for nettles from May onwards. We have also found this ladybird on a variety of broadleaf trees and shrubs including Bay Laurel *Laurus nobilis*, Birch *Betula pendula*, *Deutzia sp.* and Gooseberry *Ribes uva-crispa*. As regards coniferous trees we have mostly found this species on Scots Pine *Pinus sylvestris*. This ladybird is most

often found on herbaceous plants such as *Allium sp.*, Black Horehound *Ballota nigra*, Broad Bean *Vicia faba*, Hollyhock *Alcea rosea*, *Hosta sp.*, Knapweed *Centaurea nigra*, Lettuce *Lactusa sativa* and mullein *Verbascum sp.*

Food sources: Aphids, especially aphids on Nettles *Urtica dioica*.

Over-wintering sites: In plant stems, leaf litter and low down in dense vegetation.

Where to look: Gardens or anywhere where there are large or extensive nettle beds.

When to look: Mostly April to August, peaking in late May and June. This species does not appear in any quantity until late April or even May.

Identification: 4 mm (1/6 in). Legs: yellow. Pronotum: black with broad yellow margin. This is the only bright yellow ladybird apart from the 22-spot, but the yellow of this species is usually a banana-skin-yellow rather lemon-yellow, and the edge of the elytra is always black. We have found occasional specimens that are cream coloured rather than yellow (like the 16-spot Ladybird). The elytral markings vary considerably. Usually there are about ten rather angular black spots around a central black letter 'C' consisting of four fused spots, but sometimes all or most spots are separate. We have not yet seen the melanic form, in which there are several large yellow spots on black. Possibly this is more common further north.

Striped Ladybird *Myzia oblongoguttata* ⊗ ♀

Status & Distribution: Rare, with just one known site on the east edge of the city. This is a more common species in the New Forest.

Habitat: Mainly associated with Scots Pine, *Pinus sylvestris*, either in woodland or on heaths. We have also found it on larch *Larix sp.*

Food sources: Aphids on pines.

Over-wintering sites: Unknown.

Where to look: Telegraph Woods (West End) where it is very common. There is also apparently suitable habitat at a number of other sites including Allington Wood, Hut Wood, Lord's Wood and Rownham's Plantation.

When to look: Mostly active from July to September. Can also be seen in March and April.

Identification: 8–9 mm (1/3 in). Legs: brown. Pronotum: brown with two creamy white ovals on either side. The elytra of this large ladybird are a rich shiny caramel-brown with very variable creamy spots, ovals or streaks, usually in the middle or towards the rear. These markings are usually present but vary greatly in intensity. The head is black behind the eyes.

Individual records: Sandy Top at Brockenhurst (18/08/1995), Roydon Common (01/06/1999) and Telegraph Woods at West End (10/07/2004, 18/09/2004 and 05/05/2005).

Eyed Ladybird *Anatis ocellata* o ☽

Status & Distribution: Uncommon, but present around the northern and eastern edges of Southampton. This is also a widespread species in the New Forest.

Habitat: Coniferous woodland and heathland. We have found it mostly on Scots Pine *Pinus sylvestris* but also on Hemlock-spruce *Tsuga heterophylla*, larch *Larix sp.* and Yew *Taxus baccata*. We have not found it on broad-leaved trees.

Food sources: Aphids on conifers.

Over-wintering sites: We have found this species over-wintering amongst dense growths of Scots pine needles near the ends of the branches and also amongst the dead hanging leaves of Honeysuckle *Lonicera periclymenum* in conifer plantations.

Where to look: Chilworth area, Luzborough Plantation, Marlhill Copse at West End, Netley Common area, Telegraph Woods and the Thornhill area.

When to look: Mainly active from April to September.

Identification: Size: 9 mm (1/3 in)—the largest ladybird. Legs: black. Pronotum: very distinctive, black with white markings. There is a pair of white spots at rear and a white front margin; this latter feature is connected to two white crescents on either side. There are usually about sixteen large black elytral spots on a slightly purplish brick-red background. More often than not these spots are surrounded by a yellow ring or halo, which varies in brightness and thickness. Otherwise this species does not vary much.

Individual records: Caerleon Avenue, Bitterne (05/05/1989), Telegraph Wood at West End (10/07/2004, 04/09/2004, 07/04/05 and 05/05/2005), Chilworth Common (15/09/2004), Luzborough Plantation (18/03/2005), Peewit Hill, Bursledon (02/04/2005) and Marlhill Copse (05/04/2005).

Orange Ladybird *Halyzia 16-guttata* • ☽

Status & Distribution: Widespread and common (but under-recorded on the western side of the area). This species was fairly rare up to about 1987, but has increased rapidly since.

Habitat: Woodland, parkland and gardens. Usually associated with deciduous trees, which hold large aphid colonies, for example Beech *Fagus sylvatica*, Lime *Tilia vulgaris* and Sycamore *Acer pseudoplatanus*. We have found this ladybird on all of these three trees and on beech can sometimes be found actually sitting on the bark. We have also found it on Aspen *Populus tremula*, *Cotoneaster sp.* and on Honeysuckle *Lonicera periclymenum*. This ladybird is also very common on coniferous trees such as Douglas Fir *Pseudotsuga menziesii*, Lawson's Cypress *Chamaecyparis lawsoniana*, Monterey Pine *Pinus radiata*, Norway Spruce *Picea abies*, Scots Pine *Pinus sylvestris* and Yew *Taxus baccata*. We have not recorded this species on herbaceous plants.

Food sources: A vegetarian. It feeds on the fungi that grow on the honeydew exuded by certain aphid species.

Over-wintering sites: In leaf litter under trees or in woodland.

Where to look: Any suitable habitat. Often seen sitting on the smooth trunks of associated trees, especially beech and sycamore. Flies at night and much the most likely ladybird to be observed coming to moth lamps in suburban areas.

When to look: Any time of year. Sometimes found on trunks in mild spells in winter.

Identification: 6–7 mm (1/4 in). Legs: orange. Pronotum: bright orange marbled with yellow, also distinctive black eyes and clear ‘skirt’ on outer edge of pronotum. The clear skirt around the pronotum continues around the whole body of this species. This feature combined with the large white spots (usually sixteen) on bright orange is sufficient to identify this species. We have noticed some slight variation in size, brightness of the spots and the shade of background colour in this species, but in general this is not a variable species.

22-spot Ladybird *Psyllobora 22-punctata* o

Status & Distribution: Widespread and fairly common (but under-recorded in the western areas).

Habitat: Tall grassland, scrubby places, cultivated land, roadsides and hedgerows. Occasionally recorded in gardens.

Food sources: A vegetarian. Feeds on the grey mildew that is common on the leaves of certain plants like Oak *Quercus robur*, Hogweed *Heracleum sphondylium* and certain crucifers (cabbage family). We have recorded this ladybird on certain broad-leaf trees and shrubs such as birch *Betula sp.* and privet *Ligustrum sp.*, as well as Common Oak *Quercus robur*. Herbaceous plants on which we have recorded this species include *Aquilegia sp.*, Charlock (Wild Mustard) *Sinapis arvensis*, Hogweed *Heracleum sphondylium*, White Deadnettle *Lamium album* and various grasses.

Over-wintering sites: Dense vegetation close to the ground.

Where to look: Good sites include LTR, the Lordsdale Greenway, Peartree Green, RVCP and Shoreburs Greenway.

When to look: May to September, peaking in July and August. Seems to be late emerging but we have occasionally found it in April.

Identification: Size: 3 mm (1/8 in). Legs: yellow. Pronotum: bright lemon-yellow or white with a few black spots. The elytra are always bright lemon-yellow with twenty-two, or more usually twenty, black spots. There is no black edge to the elytra and there is little variation.

Kidney-spot Ladybird *Chilocorus renipustulatus* ⊗

Status & Distribution: Widespread and fairly common to the north and east of Southampton, but we cannot find it in the Waterside area (Marchwood and Hythe).

Habitat: Deciduous woodland, wet woodland (sallow carr), common land and heathland. Strongly associated with the broad-leaved willows *Salix caprea* and *S. cinerea*. We have also found this ladybird on the smooth trunks of young Ash *Fraxinus excelsior*, but not yet on birch *Betula sp.*, which is often quoted as a habitat.

Food sources: Mainly scale insects but sometimes aphids.

Over-wintering sites: Crevices near the base of trees, especially willow species, are favoured, but we have also found this species amongst dead, but suspended, leaves of Beech *Fagus sylvatica* and also on pruned branches of apple *Malus sp.*

Where to look: Baddesley Common, Bitterne Manor, Hamble Common, Netley Common and Testwood Park.

When to look: February to October (long season).

Identification: Size: 4–5 mm (1/5 in). Legs: black.

Pronotum: shiny uniform black with flattened edges on front corners. This species is told from the similar Pine and Heather Ladybirds by the two large oval red spots. The head is black and the markings are constant.



Heather Ladybird *Chilocorus 2-pustulatus* ⊗

Status & Distribution: Uncommon. Apparently found only on the east edge of Southampton and in the Dibden Purlieu area. Probably under-recorded on the northern edge of Southampton.

Habitat: Coniferous woodland and heathland. Associated with various conifers, gorse *Ulex sp.* and heathers *Calluna vulgaris* and *Erica sp.* We have found this ladybird on cypresses, including Nootka cypress *Chamaecyparis nootkatensis*, and on Scots Pine *Pinus sylvestris*. In the Hythe area we have found this species on the bark of Willow *Salix cinerea*, the usual habitat for the Kidney-spot Ladybird.

Food sources: Mainly scale insects but sometimes aphids.

Over-wintering sites: Under or on heather bushes. It is possible, but not proven, that this species might also over-winter on conifers.

Where to look: Dibden Purlieu area, Netley Common and Telegraph Woods.

When to look: March to October (long season).

Identification: Size: 3–3.5 mm (1/8 in). Legs: black. Pronotum: shiny uniform black with flattened edges on front corners. This species is distinguished from the Pine and Kidney-spot Ladybirds by its smaller size and the dark red, as opposed to black, head. Each elytron normally has a more or less linear transverse red mark in the middle.

Individual records: Netley Common (30/07/1989), Exbury Gardens (25/04/2004), Watermans Lane at Dibden Purlieu (25/04/2004), Telegraph Woods (05/06/2004) and Forest Front Reserve, Hythe (10/04/2005).

Pine Ladybird *Exochomus 4-pustulatus* •

Status & Distribution:

Habitat: Coniferous woodland and heathland. Associated with various conifers, gorse and heather *Calluna vulgaris* and *Erica sp.* We have recorded this species on many different conifers, such as Douglas Fir *Pseudotsuga menziesii*, Lawson's Cypress *Chamaecyparis lawsoniana*, Monterey Pine *Pinus radiata*, Norway Spruce *Picea abies*, Scots Pine *Pinus sylvestris* and Yew *Taxus baccata*. Also we have found it occasionally on broadleaves, such as apple *Malus sp.*, willow *Salix sp.*, Common Oak *Quercus robur* and the evergreen shrub *Skimmia sp.*

Food sources: Aphids and probably scale insects.

Over-wintering sites: In bark crevices of conifers. Possibly in leaf or needle litter.

Where to look: Netley Common, RVCP, SOC and Telegraph Woods. Also in suburban gardens and parkland with pine trees present.

When to look: Late March to September.

Identification: Size: 4 mm (1/6 in). Legs: black. Pronotum: shiny uniform black, with flattened edges on front corners. Differs from the Heather and Kidney-spot Ladybirds in having four red markings on the black elytra rather than two. The rear two spots are circular and the two in the front corners are comma or sickle-shaped. The head is black. We have not found any variations in the Southampton area.

Other species that may occur in Southampton

Bryony Ladybird *Henosepalachna argus* (•)

Status & Distribution: This species was discovered at West Moseley, Surrey in 1997 and by April 2002 it had become established over a wide area of northwest Surrey and southwest London. Members of the Southampton Natural History saw this insect by the edge of a sandy field at Pyrford (east of Woking) in Surrey and further west in similar habitat at Wisley Dump, Surrey. Both were recorded in 2004. Not yet recorded in our area.

Habitat: Recorded on Nettle *Urtica dioica*, White Bryony *Bryonia cretica* and Squirting Cucumber *Ecballium elaterium*. This species is a pest of melons in southern Europe.

Food sources: A vegetarian ladybird similar to the related 24-spot Ladybird.

Where to look: The best places seem to be nettle beds in sunny, sheltered locations.

When to look: Recorded as early as May and can certainly and we have seen it from July to early September.

Identification: Size: 6–7 mm (1/4 in). Legs: Orange. Distinctive combination of about eleven black spots on an amber background and also a uniform amber pronotum. A fine down covers this ladybird and this is visible under a x10 hand lens.

Hieroglyphic Ladybird *Coccinella hieroglyphica* (⊗)

Status & Distribution: Apparently recorded in the south and west of the New Forest between 1983 and 1994 and also found in east Dorset and Surrey. We have not recorded this species in the Southampton area. There is a possibility that it may have become rare.

Habitat: Heathland and heather moorland.

Food sources: Mainly aphids.

Where to look: Netley Common, Hamble Common and the Forest Front Reserve, Hythe appear to have suitable habitat and are the most likely sites.

When to look: Potentially any time from spring to autumn.

Identification: Size: 5 mm (1/5 in). Legs: black. This is a reddish-brown ladybird with variable black markings sometimes resembling ancient writing. The pronotum is black with two white squares at front corners.



Harlequin Ladybird *Harmonia axyridis* (•D)

Status & Distribution: Already this species is a major pest on the Continent and in North America. This native of Japan and Korea was first recorded in Suffolk in September 2004. It had been recorded across much of Britain east of a line from Portsmouth to the Wash by March 2005! This is a truly phenomenal and frightening increase.

Habitat: Seems to be mostly associated with cultivated land, but may occur in other habitats including broadleaf woodland. This species appears to have a strong affinity for maple and lime trees and often flies at night. In both of these respects the Harlequin Ladybird resembles the Orange Ladybird.

Food sources: Favours aphids, but will attack other similar insects. When this food supply runs out, this species attacks the adults and larvae of other ladybird species.

Where to look: We think that this species is most likely to turn up in garden, urban parks and allotments.

When to look: Potentially any time of year.



Identification: Size: 6–8 mm (1/4 to 1/3 in).

This is a large colourful ladybird. The pronotum is consistently black with two large white ovals on either side (like the 2-spot Ladybird) and has a white triangle between eyes.

There are three colour forms: bright orange-pink with about sixteen black spots, black with two red spots, or black with four red spots.

The margin of the abdomen on the ventral side is red.



There is only one other species of macro-ladybird that is currently resident in the British Isles: the **5-Spot Ladybird** *Coccinella 5-punctata*. This species is thought unlikely to occur in the Southampton area as it favours the unstable shingle by upland rivers and as such we shall not describe it. In Britain this is a scarce species found mostly in central Wales, and the nearest sites to us are in north Devon, the Brecon Beacons and close to Birmingham.

There is always a possibility of scarce migrants, foreign imports and new species turning up. Two possible candidates would be the Australian *Cryptolaemus montrouzieri* and the Continental European *Cynegetis impunctata*. The former species has been used in Britain for the biological control of scale insects in glasshouses since 1980 and has been known to occur temporarily in the wild. This ladybird is downy, has black elytra and a pale head and pronotum. It is unlikely to survive the rigours of the British winter except possibly in sheltered coastal locations such as the Bournemouth area. *Cynegetis impunctata* is a small, downy ladybird resembling a rather brownish 24-spot Ladybird but often without spots. It is common on the French coast, especially in the Calais area.

Micro-ladybirds

In addition to the resident macro-ladybirds in Britain there are eighteen currently established micro-ladybirds. All of these species are no more than about 3 mm (1/8 in) in size. Some of these species are downy and others are glabrous. All of them are dull or dark in colour. These species are all carnivorous and most of them feed on aphids or related insects. The only exceptions to this rule are *Stethorus punctillum* that feeds on mites and *Clitostethus arcuatus* that has a taste for whitefly. Unfortunately for gardeners, the latter species is rather rare!

Two of these species have been discovered in Southampton: *Rhyzobius litura* and *Scymnus suturalis* and both have been described above. In addition, we have recently recorded *Scymnus haemorrhoidalis* at Hatchet Pond in the New Forest (24/04/05) and *Scymnus nigrinus* at Town Common, north of Christchurch (10/05/05). The former species is associated with marshy habitats and was found on a dry sandy bank close to an area of damp, acidic grassland. The latter was beaten out of an isolated Scots Pine *Pinus sylvestris* in an area of dry heathland. This latter species is likely to be common in the Southampton area.

Of the remaining fourteen species, two are very unlikely to occur in the Southampton area. The other twelve, together with their known habitat requirements, are:

Platynaspis luteorubra: A grassland species associated with ants. Rare or under-recorded.

Hyperaspis pseudopustulata: A common species in broadleaf woodland especially on moss.

Clitostethus arcuatus: A scarce species but found in woodland of all types.

Scymnus frontalis: Dry grassland and scrub near to the coast. Common.

Scymnus schmidti: Dry grassland and other dry habitats. Uncommon.

Scymnus femoralis: A common species of grassland on chalk or sand.

Scymnus auritus: Probably common in woodland and associated with oak trees.

Scymnus limbatus: Associated with willow, poplar and poplar. Uncommon.

Stethorus punctillum: Common on trees and shrubs of all kinds.

Nephus redtenbacheri: A fairly common grassland species.

Coccidula rufa: A common marshland species associated with reeds, reed mace and rushes.

Coccidula scutellata: Same habitat as *Coccidula rufa*.

Hopefully, this brief account might encourage somebody to look at these micro-ladybirds more closely.

Insects that can be Confused with Ladybirds

It is true to say that ladybirds are among the most distinctive of insects. Even the less familiar species are usually easily recognisable as ladybirds. Nevertheless, we have become aware of potential identification pitfalls with ladybirds during the course of this survey.

Most of the other insects that could conceivably be mistaken for ladybirds are other beetles of the order *Coleoptera*. Fortunately, most of the other 3,000 species of beetle found in Hampshire do not resemble ladybirds in the slightest. Most beetles possess much longer antennae, different mouthparts or have more elongated or otherwise differently shaped bodies.

Of the most readily observable beetles the group that most resemble ladybirds in shape are some of the leaf beetles of the family *Chrysomelidae*. These brightly coloured diurnal beetles are often found conspicuously perched on vegetation on sunny days, but many of them have a metallic hue absent in ladybirds. Furthermore, many of these Chrysomelids are bright green, purple, blue or coppery in colour and many of them have lines of punctures on their elytra. All of these features are absent in ladybirds. However, some convincingly red or yellow and black species such as the Aspen Beetle *Chrysomela populi* (very common at Netley Common), *Cassida fastuosa* (common on fleabane) and the black-spotted *Phytodecta viminalis* on willows can cause problems. These beetles can always be told from ladybirds by the length of their antennae. In leaf beetles these are always about half the length of the body, whereas ladybird antennae are never more than about one fifth the body length. Also, all of these beetles never have quite the same rotund shape as ladybirds.

The other beetles that can sometimes be mistaken for the macro-ladybirds are members of the family *Dermestidae* (skin beetles) and some mycophagous (fungi-eating) beetles. One member of the Southampton Natural History Society did report a specimen of very common Dermestrid called *Anthrenus verbasci* (Varied Carpet Beetle) to us; this beetle is about 2 mm long with a marbled grey and black pattern, but with antennae and body shape very similar to those of a ladybird. The commonest fungus beetle that could be mistaken for a ladybird is the strikingly red-and-black 'Ladybird Mimic' *Endomychus coccineus*. This is a common beetle, especially in beech woods, and it is bright red with black spots and the size of a small ladybird, but it has a much flatter body and long antennae (half the body length). Some very small rotund beetles can be confused with micro-ladybirds, but that problem is outside the scope of this book.

The only other insect is likely to be mistaken for a ladybird is the large black-and-red spotted froghopper *Cercopis vulnerata*. This member of the Hemiptera (bugs) is commonly seen sitting on low vegetation in May and June, especially in marshy or wooded areas. This froghopper has much more elongated elytra and a very different, more or less triangular, shape.

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Glossary of Terms

- Abdomen:*** One of the three body segments of a ladybird. It is the largest part and furthest towards the rear. Most of the internal body organs lie within it. From above the abdomen is covered by the elytra.
- Antennae:*** The pair of sensory organs visible at the front of the head of a ladybird. In ladybirds these are short (no more than 1.5 mm), clubbed and have eleven segments (three in the club).
- Brown-field sites:*** Sites where natural habitats (grassland, bare ground, scrub or woodland) exist on land that formerly had an industrial use or was otherwise built on. Such sites usually exist in urban areas and often exist temporarily before redevelopment.
- Elytron (pl. elytra):*** Either of the two wing coverings or wing cases. These parts of the adult ladybird are the modified forewings and protect both the delicate hind wings and the abdomen. The elytra are usually boldly and distinctively coloured.
- Glabrous:*** Free from hair or down; smooth.
- Greenways:*** Strips or patches of more or less semi-natural habitat within urban areas that usually contain woodland, scrub, marshland, water bodies or grassland. In Southampton many greenways follow the stream valleys, such as Tanner's Brook or Monks Brook.
- Larva:*** The second stage of a ladybird life cycle between the egg and the pupa. It is the main growing stage and the aim of the larva is to eat as much as possible.
- Pronotum (pl. pronota):*** The hard protective covering of the thorax of a ladybird which hides the thorax from above. The pronotum is often distinctively coloured and marked.
- Pupa:*** The third stage of a ladybird life cycle between the larva and the adult beetle. It is the resting stage and tends to be of short duration. Inside the pupa the larval tissues are breaking down to form the adult.
- Reflex bleeding:*** The name given to the production of a foul-smelling yellowish fluid to deter predators and humans. This defensive liquid is produced from near the junction of the abdomen and thorax.
- Species:*** This is the word used to describe all individuals of a living organism that share certain constant anatomical or genetic features. In theory, all adult ladybirds of the same species could successfully breed with each other; but those of different species could not.
- Thorax:*** The second major body segment of a ladybird. The thorax lies between the head and the abdomen. All the legs are attached to the thorax.
- Ventral: Relating to the underside.***

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