

Nature's
Wonders

Ladybugs



10 Species of Ladybird Beetle

A 3D Model by Ken Gilliland

Nature's Wonders

Ladybug

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Ladybug

Introduction

The superfamily, *Coccinellidae*, is a widespread family of small beetles commonly known as ladybugs in North America and ladybirds in Great Britain. There are more than 6,000 described species and they have a global distribution and are found in a variety of habitats.

Ladybugs have had important roles in culture and religion, being associated with luck, love, fertility and prophecy. "Ladybird" is affectionate term for someone, such as for a loved one. They have been said to predict the future, particularly weather conditions and how well the crops will grow.

The Nature's Wonders Ladybug set comes with a good variety of beetles found around the world. These include most of the most common ones found in North America and representative species of each of the other continents. The set includes ladybugs in their larva state and a full set of controls to mimic behaviors such as opening their shells to reveal their wings.

The Nature's Wonders Ladybug set comes in both Poser and DAZ Studio native versions and support Firefly, 3Delight, Superfly and Iray render engines.

Overview and Use

This set uses a common model to recreate digitally the *Cicadoidea* species included in this volume. Each species uses specific morphs from the generic model to single-out its unique features. Select **Figures** in the Runtime Folder and go to the **Nature's Wonders Insects** folder:

- **Models included in this volume:**
 - **Nature's Wonders Ladybug Base** - This model is used with all cicadas included in this set. The "blank" version of this model is in the Resources folder.

Creating a Ladybug using Poser or DAZ Studio

1. For this example, we'll create a 7-Spot Ladybug.
2. Load Poser, select the FIGURES library and go to the Animals / Nature's Wonders / Fauna Libraries / Insects / **Ladybugs of the World** folder and the material sub-folder you want.
3. Select the 7-Spot Ladybug (or another ladybug of your choice).

The AntCam

All of the species in this set have been scaled to their appropriate sizes in relation to human figure models. In most cases, these can be **very small** (some 1.75mm/0.1 inch). With that in mind, this set comes with an “InsectCam”.

The AntCam is a camera set-up to focus on the default position of the insect and is useful on focusing on very small, hard-to-find insects. This camera is useful **as a starting point** to build your scene. The camera isn't really meant as your “final” camera. You could “parent” the insect to the camera and then position the camera where you want it in the scene, thus keeping the focus on the insect and not losing it in the scene.

In Poser, the AntCam **also changes the “hither” setting from its annoying default value of 0.800 to 0.0** which allows you to close focus. If you've noticed that part of the scene that are very close disappear, yes, that's the hither setting and we're turning it “off” for you.

Posing the Model, Sizing & Poser Issues

With most figure-based models the center of the model is the “hip” area. The abdomen is considered the “hip” in this model.

An issue that can appear when rendering in Poser, with only a ladybug (no other items) in the scene, is that it will produce a default square shadow. It is a known bug within Poser. To correct this issue, include a second larger item off-screen and the shadows will render correctly.



General Information on Ladybugs

The superfamily, *Coccinellidae*, is a widespread family of small beetles. They are commonly known as ladybugs in North America and ladybirds in Great Britain. The moniker, "lady", refers to mother Mary. Entomologists prefer the names ladybird beetles or lady beetles to avoid confusion with true bugs. The more than 6,000 described species have a global distribution and are found in a variety of habitats. They are oval beetles with a domed back and flat underside. They are sexually dimorphic; adult females are larger than males. Many of the species have conspicuous aposematic colors and patterns, such as red with black spots, that warn potential predators that they are distasteful.

Most *coccinellid* species are carnivorous predators, preying on insects such as aphids and scale insects. They are also known to consume non-animal matter, including plants and fungi. They are promiscuous breeders, reproducing in spring and summer in temperate regions and during the wet season in tropical regions. Many species lay their eggs near colonies of prey, ensuring their larvae have an immediate food



source. Like most insects, they develop from larva to pupa to adult. Temperate species hibernate and diapause during the winter; tropical species are dormant during the dry season. *Coccinellids* migrate between dormancy and breeding sites.

Since they prey on agricultural pests, most *coccinellids* are considered beneficial insects. Several species have been introduced outside their range as biological control agents, with varying degrees of success. Some species are pests themselves and can infest people's homes, particularly in winter. Invasive species like *Harmonia axyridis* pose a threat to native ones. Other threats to *coccinellids* include climate change and habitat destruction. These insects have played roles in folklore, religion and poetry, and are particularly popular in nursery rhymes.

Seven-spot Ladybird

Coccinella septempunctata

Size: An adult seven-spot ladybird may reach a body length of 7.6–12.7 mm (0.3–0.5 in).

Range: It is found in Europe, North Africa, Australia, Cyprus, European Russia, the Caucasus, Siberia, the Russian Far East, Belarus, Ukraine, Moldova, the Transcaucasia, Kazakhstan, Middle Asia, Western Asia, Middle East, Afghanistan, Mongolia, China, North and South Korea, Pakistan, Nepal, North India, Japan, Sri Lanka, southeast Asia, and tropical Africa.

Habitat: Adults overwinter in ground litter in parks, gardens and forest edges and under tree bark and rocks.

Description: Its elytra are of a red color, but punctuated with three black spots each, with one further spot being spread over the junction of the two, making a total of seven spots, from which the species derives both its common and scientific names (from the Latin *septem* = "seven" and *punctus* = "spot"). here are one or two generations per year.



Diet: Although the larvae and adults mainly eat aphids, they also feed on *Thysanoptera*, *Aleyrodidae*, on the larvae of *Psyllidae* and *Cicadellidae*, and on eggs and larvae of some beetles and butterflies.

Cool Facts: It is the most common ladybird in Europe. The species has been repeatedly introduced to North America as a biological control agent to reduce aphid numbers. The first record of successful establishment (after numerous failed attempts to introduce the species) in the United States was in 1973. It has since spread by natural dispersion to New York and Connecticut and to Oklahoma, Georgia and Delaware by recolonization.

Their distinctive spots and conspicuous colors warn of their toxicity, making them unappealing to predators. This species can secrete a fluid from joints in their legs which gives them a foul taste. A threatened ladybird may both play dead and secrete that unappetizing substance to protect itself.

The 7-spotted ladybird synthesizes the toxic alkaloids (N-oxide coccinelline) and its free base (precoccinelline). Depending on sex and diet, as well as the spot size and coloration can provide some indication of how toxic the individual insect is to potential predators.



Fourteen-spotted Lady Beetle

Propylea quatuordecimpunctata

Size: An adult fourteen-spotted lady beetle may reach a body length of 3.5–4 mm (0.14–0.16 inches).

Range: This species is native and widespread in the Palearctic north to the Arctic Circle. It is a common species in Europe, North Africa, Cyprus, European Russia, the Caucasus, Siberia, the Russian Far East, Belarus, Ukraine, Moldova, Transcaucasia, Kazakhstan, Western Asia, Pakistan, Mongolia, temperate China (Tarim Basin deciduous forests and steppe), Korea and Japan.

The species is adventive and widespread in North America (southeastern Canada to the Great Lakes and Florida), and is still spreading. They were introduced to the United States to control the Russian wheat aphid.



Habitat: These beetles live in numerous different habitats, from lowlands to subalpine areas, and Western European broadleaf forests, mixed forests and meadows, as well as in fields, forests, and other Life zones of central Europe. They can be found in gardens and parks, on grasses and herbaceous plants, in bushes, and trees. In addition the species can be found in forest litter, on brushwood, on coarse woody debris, in moss, in straw in sheds, in detritus and alluvial soil, in rotten plant residues, and also in compost.

Description: The background coloration ranges from cream through yellow to light orange, but never red. Usually there are 14 black, almost rectangular spots on the elytra, but only rarely are all of these spots separate from one

another. Most commonly, several of the spots are fused into larger markings, particularly along the midline, where they often create a shape resembling an anchor, sometimes fusing to such an extent that the yellow disappears almost completely, rendering the body almost entirely black except for 12 pale yellow spots.

The pronotum is whitish or pale yellow, with four to eight black spots. The antennae and legs are yellowish-brown.

Diet: They mainly eat aphids, *Aleyrodidae*, *Coccoidea*, and on the larvae and eggs of some beetles and butterflies

Cool Facts: While yellow is the most common color, they have a great variety of color forms with well over 100 color and pattern variations. Some of these color forms differ to the extent that at first they were thought to be separate species.

Varieties include:

- *P. q. quatuordecimpunctata*. First reported by Linnaeus in 1758.
- *P. q. suturalis*. First reported by Weise in 1879.
- *P. q. weisei*. First reported by Mader in 1931.
- *P. q. pedemontana*. First reported by Della Beffa in 1913.
- *P. q. frivaldskyi*. First reported by Sajo in 1882.
- *P. q. pannonica*. First reported by Sajo in 1882.
- *P. q. moravica*. First reported by Walter in 1882.
- *P. q. perlata*. First reported by Weise in 1879.

Eighteen-spotted Ladybird

Myrrha octodecimguttata

Size: An adult eighteen-spotted lady beetle may reach a body length of 4–5 mm (0.16–0.2 inches).

Range: This species is found in Europe, North Africa, European Russia, the Caucasus, Siberia, the Russian Far East, Belarus, Ukraine, Transcaucasia, Kazakhstan, Western Asia, and Mongolia.

Habitat: It lives primarily in pine forests and mixed (deciduous/conifer) forests inhabiting the upper part of the canopy. They favor old pines and breed in the crowns of pine trees in Germany. Adults overwinter in

aggregations under peeled-off bark and in crevices at the bases of old pine trunks.



Description: Atop rich brown wing cases, the 18-Spot Ladybird sports many white spots, the two nearest the pronotum often taking on somewhat of a crescent shape. The best way to identify this species is by the pronotum itself which displays a brown 'M' shape not found in other species.

Diet: They mainly eat aphid species found on conifers such as *Cinara pinea*.

Cool Facts: A conifer specialist, the 18-Spot Ladybird is invariably found in close proximity to pines. Many sources state a preference for Scots Pine (*Pinus sylvestris*) and where mature trees are present.

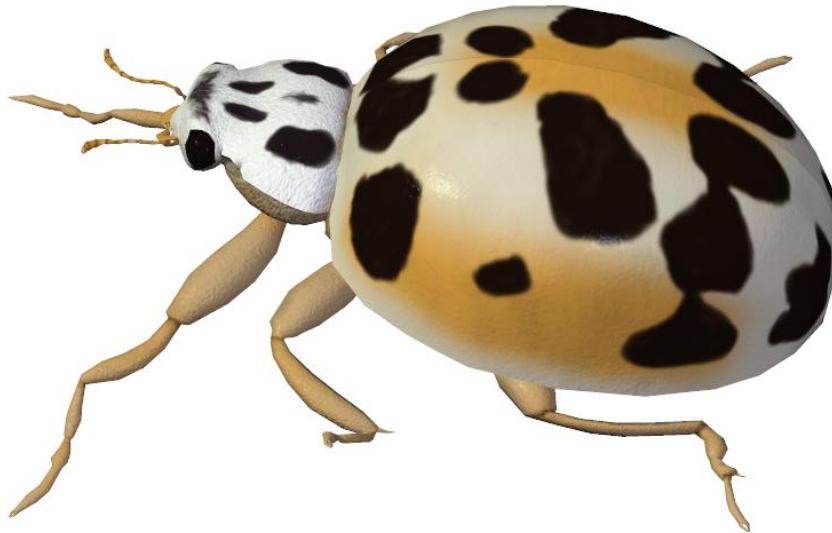
Twenty-spotted Lady Beetle

Psyllobora vigintimaculata

Size: An adult twenty-spotted lady beetle may reach a body length of 1.75–3 mm (0.07–0.12 inches).

Range: This species native to North America, excluding Florida and the northernmost parts of Canada.

Habitat: Twenty-spotted Lady Beetles will occur on any plants that are infected with mildews, from ground level to tree canopies. Twenty-spotted Lady Beetles overwinter in small aggregations in leaf litter. In the spring, Twenty-spotted Lady Beetles can be found in groups at the base of Skunk Cabbage plants and in shrubby vegetation. They will then disperse to forage on mildews. Eggs are laid on leaves of plants infected with mildew in small groups.



Description: Its head is white or pale, with a black patch at the top. The pronotum is white or pale with four to five dark spots (brown or black). The spots are arranged in a vague “M” shape. The elytras (shell) underlying color is white, with black spots. There are sometimes orange patches as well (eastern populations only). In other parts of the Twenty-spotted Lady Beetle’s range, the elytra may have bicolor or brown markings. Its legs are a light orange.

Diet: This species feeds primarily on fungus, especially powdery mildews.

Cool Facts: It is Listed as Vulnerable species in Indiana and imperiled in Saskatchewan. It appears to be not threatened in Alberta, Manitoba, Ontario, and Newfoundland, Nova Scotia, New Brunswick, and British Columbia.

Twenty-two-spotted Ladybird

Psyllobora vigintiduopunctata

Size: This adult lady beetle may reach a body length of 3–5 mm (0.12–0.2 inches).

Range: This species is found in the United Kingdom (England and Wales).

Habitat: It is found in a low vegetation.

Description: The elytra halves are yellow in color with 22 black spots. The pronotum is yellow or white with 5 black spots.

Diet: They mainly eat mildew, especially from umbellifers and low-growing shrubs.



Cool Facts: There are more than 3,000 different species of ladybird in the world, over 40 of which are found in the UK.

Convergent Lady Beetle

Hippodamia convergens

Size: An adult may reach a body length of 7.6–12.7 mm (0.3–0.5 in).

Range: It is found throughout North America, but have also been imported and established in South America.

Habitat: In the western United States, these beetles may spend up to nine months in diapause in large aggregations in mountain valleys, far from their aphid food sources. In spring, the adults spread out and search for suitable sites to lay their eggs where aphids are plentiful. This dispersal trait is especially marked in this species as compared to other lady beetles.

Description: Its elytra are of a red color, with six black spots on each side, and one additional spot being spread over the junction of the two halves.



Diet: Aphids form their main diet.

Cool Facts: It is the most common ladybird in North America. These beetles are also used for augmentative biological control to temporarily increase predator numbers to control aphids. The species is available commercially in North America, but because of the overwintering habits of non-reproductive adults, released beetles tend

to quickly disperse from their release site. Adults released in enclosed settings such as greenhouses can contribute to lower aphid numbers.

Transverse Ladybird

Coccinella transversalis

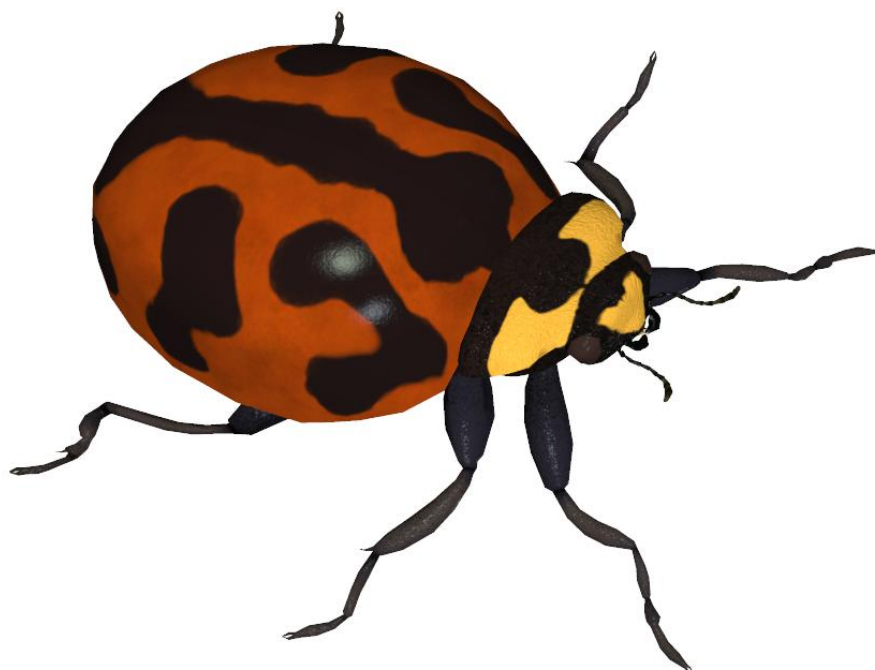
Size: An adult transverse ladybird may reach a body length of 3.8–6.7 mm (0.15–0.26 inches).

Range: This species is found from India across southern and southeastern Asia to Malesia and Australia.

Habitat: It is found in a variety of vegetation.

Description: It has a black head with predominantly bright red or orange elytra boldly marked with a black band down the midline and two lateral three-lobed markings.

Diet: Many species of aphids, including the pea aphid (*Acyrtosiphon pisum*), *Aphis affinis*, cowpea aphid (*Aphis craccivora*), cotton aphid (*Aphis gossypii*), milkweed aphid (*Aphis nerii*), spirea aphid (*Aphis spiraeicola*), leafcurling plum aphid (*Brachycaudus helichrysi*), cabbage aphid (*Brevicoryne brassicae*), *Cervaphis quercus*, *Cervaphis rappardi indica*, turnip aphid (*Lipaphis pseudobrassicae*), *Macrosiphoniella yomogifoliae*, potato aphid (*Macrosiphum euphorbiae*), rose aphid (*Macrosiphum rosae*), *Melanaphis donacis*,



Melanaphis sacchari, *Myzus nicotianae*, green peach aphid (*Myzus persicae*), *Pentalonia nigronervosa*, corn aphid (*Rhopalosiphum maidis*), *Sitobion rosaeiformis*, *Taoia indica*, *Toxoptera aurantii*, *Therioaphis ononidis*, *Therioaphis trifolii*, *Uroleucon compositae* and *Uroleucon sonchi*, species of leafhopper including *Empoasca indica* and *Idioscopus clypealis*, the scale insect species *Orthezia insignis*, the Asian citrus psyllid (*Diaphorina citri*), the

cotton bollworm (*Helicoverpa armigera*), and oriental leafworm moth (*Spodoptera litura*).

Cool Facts: The transverse ladybird was first described by Danish zoologist Johan Christian Fabricius in 1781 as *Coccinella transversalis* and still bears its original name. Fabricius' description predated Carl Peter Thunberg's naming of this species as *Coccinella repanda* by several months.



Large Leaf-eating Ladybird

Papuaepilachna guttatopustulata

Size: An adult beetle may reach a body length of 7–9 mm (0.27–0.35 inches).

Range: This species is endemic to parts of Australasia, specifically New South Wales, Queensland, the Bismarck Archipelago, New Guinea, New Hebrides and Solomon Islands.

Habitat: It is found on *Solanum* species (eggplant/tomato/potato family).

Description: It has a distinct rounded elytra or fore wings typical of ladybirds. Apart from their coloured spots, the elytra and pronotum are black, while the propleura, the sides of the prothorax, are yellow or yellowish brown. Each elytron bears three spots. The spot on the top of the midline is reddish brown, as is the spot on the rear of the elytron. Another spot on the lower front part of the elytron also is yellow or yellowish brown.

Diet: Herbivorous; both the larvae and the adults eat the foliage of solanaceous plants. In addition to feeding on native species and on introduced weeds such as *Solanum nigrum*, it attacks cultivated plants such as *Duboisia* spp., egg plant, potato and tomato.

Cool Facts: The species is considered a crop pest and can cause further damage to crops by acting as a vector for mottle virus.



Steelblue Ladybird

Halmus chalybeus

Size: An adult beetle may reach a body length of 4 mm (0.16 inches).

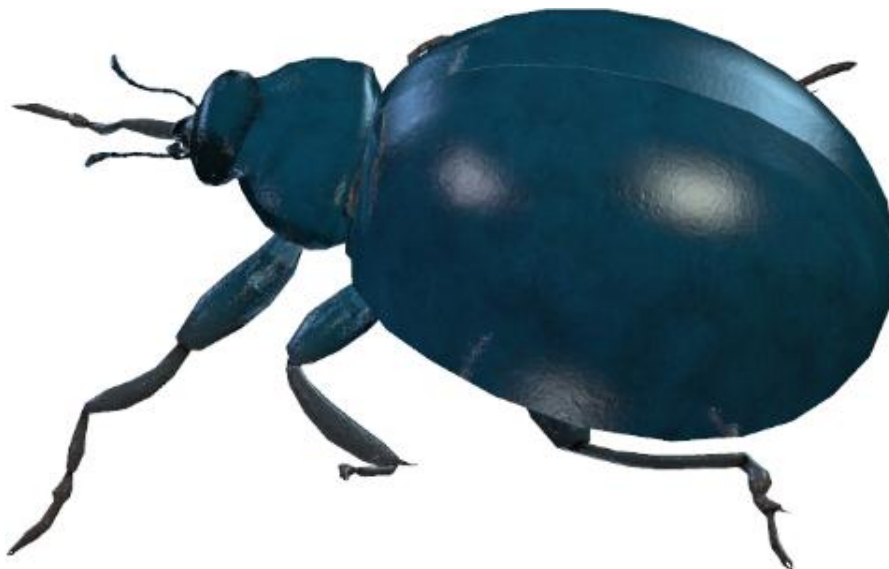
Range: This species is found in Australia and New Zealand.

Habitat: It is found on trees and shrubs in native habitats and in crops, parks and gardens, where it feeds on a wide variety of insects and mites.

Description: The distinctly colored adults head, prothorax (first part of the middle body) and elytra (wing covers) are shiny dark metallic blue or green. The front of the head, front corners of the prothorax, and the femur of the front legs are yellowish brown in males. The legs are dark except the feet are mid brown like the antennae. Under the elytra is a pair of wings used for flying. The small head has a pair of compound eyes and two short antennae.

Diet: Scale insects, psyllids, whitefly and free living gall mites (*Eriophyoidea*). The jaws are the primarily structures used for holding and chewing the prey. Legs don't appear to be used for holding prey.

Cool Facts: It was first released in New Zealand in 1899. It is now the most common ladybird in Auckland, widespread in the North Island and present in the North of the South Island.



Orange-spotted Ladybird

Orcus australasiae

Size: An adult fourteen-spotted lady beetle may reach a body length of 4–5.6 mm (0.15–0.22 inches).

Range: This species is found found in Australia, New Guinea, New Caledonia, Java, Sumba, and the Kai Islands.

Habitat: It is found in vegetation.

Description: It is dark green in color with six orange dots on wings cover.

Diet: A significant predator of aphids and other hemipteran plant parasites.

Cool Facts: Very common species in southern and western parts of Australia, including Tasmania.



Special Thanks and References

*A special thank-you to my beta testers
Alisa and FlintHawk*

Sources:

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Bug Guide (<https://bugguide.net/>)

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Ladybirds of Australia

(<https://www.ento.csiro.au/biology/ladybirds/ladybirds.htm>)

James Common (<https://commonbynature.com/>)

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