



## Transverse Lady Beetle



Photo: © Tamra Feenstra

### Scientific name

*Coccinella transversoguttata*

### Taxon

Arthropods

### COSEWIC Status

Special Concern

### Canadian range

Yukon, Northwest Territories, Nunavut, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland and Labrador

### Reason for Designation

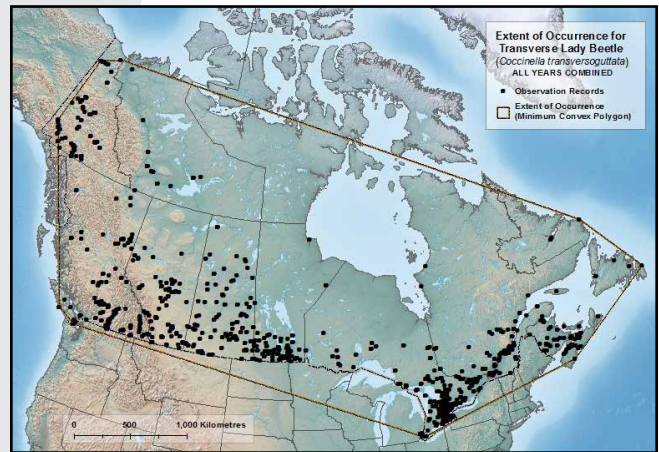
This species was once common and broadly distributed throughout most of Canada. Declines started in the 1970s and the species is now absent in southern Ontario and the Maritimes. In some parts of its western and northern range, the species is still commonly recorded. The spread of non-native lady beetles is considered one of the possible threats to this species through competition, intraguild predation, or introduction of pathogens. Non-native lady beetles are less commonly found in places where this species remains.

## Wildlife Species Description and Significance

Transverse Lady Beetles are small, round beetles (5.0 to 7.8 mm) that are native to North America. Adults have orange to red wing covers with black markings, consisting of a black band and four elongate spots, which distinguish them from other species. This charismatic species was once one of the more common and widespread lady beetles in North America, playing an important role as a biological control agent of aphids and other insect pests.

## Distribution

The Transverse Lady Beetle is a wide-ranging species occurring from coast to coast across Canada and the United States. The Canadian range of the Transverse Lady Beetle stretches from St. John's, Newfoundland and Labrador, west to Vancouver Island. The northernmost extent of its range includes Yukon, the Northwest Territories and likely Nunavut.



Canadian distribution of Transverse Lady Beetle based on museum collections and recent surveys (1889-2015). The map shows the Extent of Occurrence, the area included in a polygon without concave angles that encompasses the geographic distribution of all known populations of a wildlife species.

## Habitat

Transverse Lady Beetles are habitat generalists, primarily feeding on aphids and occurring across a wide range of habitats. This lady beetle inhabits agricultural areas, suburban gardens, parks, coniferous forests, deciduous forests, prairie grasslands, meadows,

riparian areas and other natural areas. This broad habitat range reflects their ability to exploit seasonal changes in prey availability across different vegetation types.

## Biology

Transverse Lady Beetles have four life stages: egg, larva, pupa and adult, and can have two generations per year. Adults of the spring generation can undergo aestivation to avoid high summer temperatures, and lay eggs in early autumn. Adults of the autumn generation congregate to overwinter and undergo diapause; becoming active and reproducing when temperatures warm in the early spring. This species occupies a wide ecological niche across a wide variety of habitats and temperature regimes in Canada. In general lady beetles are very mobile, display low site fidelity, and readily engage in short (few hundred metres) and long (18 – 120 km) distance dispersal. This species does not migrate. Both adult and larval stages are predatory and primarily prey on aphids. In turn, this species is also subject to predation by other invertebrates, vertebrates, and is susceptible to parasitoids and pathogens.

## Population Sizes and Trends

The historically broad geographic range and abundance of the Transverse Lady Beetle stands in stark contrast to its current distribution. Prior to 1986, this species was widely distributed and abundant across North America and was one of the most common lady beetles collected. Currently, in many parts of its range this species is either absent or below detection thresholds where it was formerly common. In other regions it persists in low numbers. In Yukon, the Northwest Territories and British Columbia, however, this species seems to be abundant and common. These regions also have a smaller proportion of non-native lady beetle species, which are considered one of the potential threats to this species and other native lady beetles.

## Threats and Limiting Factors

The specific range-wide causes of decline in the Transverse Lady Beetle are currently unknown. Possible threats to this species may include negative interactions with recently arrived non-native species, such as the Seven-spotted Lady Beetle and Multicolored Asian Lady Beetle through competition, intraguild predation or indirect effects through introduction of pathogens. Other possible localized

and cumulative threats include land use changes, such as direct and indirect effects of agricultural pesticide/chemical use to control their prey species, habitat loss through urban expansion, conversion of farmland to forest, and other human disturbances.

## Protection, Status, and Ranks

There are no laws in Canada that protect the Transverse Lady Beetle. This species has not yet been ranked globally or nationally. The Conservation Data Centres across Canada have assigned conservation status ranks as follows: ON: S1, YT: S4; NT: S4S5; BC: S5; AB, SK, MB: S4S5; ON: S1; QC: S4; NB, NS, PE: SH; NF: SU; NF (Labrador only): S5.

Source: COSEWIC. 2016. COSEWIC assessment and status report on the Transverse Lady Beetle *Coccinella transversoguttata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 57 pp.

For more information, please visit [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca).

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