

Plebejus saepiolus insulanus

English name greenish blue, subspecies *insulanus*

Scientific name *Plebejus saepiolus insulanus*

Family Lycaenidae (Gossamer Wings), subfamily Lycaeninae (Coppers)

Other English names Vancouver Island blue, island blue

Other scientific names none

Risk status

BC: possibly extinct (SH); red-listed

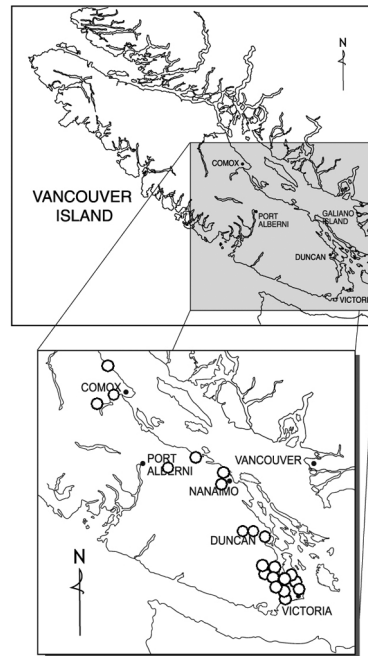
Canada: possibly extinct (NH); COSEWIC: endangered (2000)

Global: possibly extinct (G5TH)

Range/Known distribution

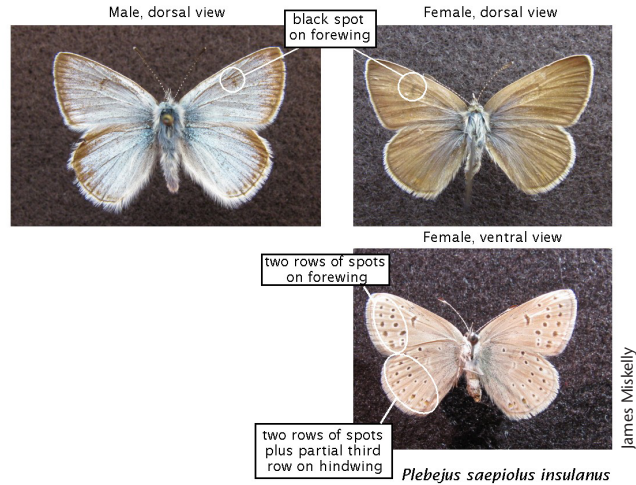
The global range is difficult to determine. Canadian experts describe greenish blue (subspecies *insulanus*) only from Vancouver Island, British Columbia. However, the subspecies name has also been used for populations in coastal Oregon and one author includes populations from Washington to California as well as Montana, Colorado, Nevada and Utah.

Until the taxonomy is resolved, the Canadian distribution of greenish blue (subspecies *insulanus*) is considered to be only on southeastern Vancouver Island. Historically, the species ranged from south of Campbell River to Victoria. There have been no confirmed sightings or records of greenish blue *insulanus* subspecies since 1979. At least 21 populations have been extirpated. Although unlikely, it is possible the greenish blue (subspecies *insulanus*) occurs in unsurveyed areas.



Distribution of *Plebejus saepiolus insulanus*
○ known historical sites

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Field description

The wingspan of both males and females measures 2.1-2.8 cm. The upper surface of the **male is metallic blue with a narrow black border and a black spot on the forewing**. The upper surface of the female is **dark brown with a metallic blue sheen and a black spot on the forewing**. Sometimes, there is a faint row of black spots with orange caps along the margin of the hindwing. The underside of the wings in both sexes ranges from powder blue to grey, becoming bluer close to the body. There are **two rows of black spots** on the forewing and two rows plus a **partial third row** on the hindwing, usually with **faint orange colouring** between the second and third rows. The markings on the underside of the males are much less distinct than the females.

IDENTIFICATION TIPS

There are a number of other blue metallic butterflies that occur in Garry oak ecosystems. The western spring azure (*Celastrina echo*) and the silvery blue (*Glaucopsyche lygdamus*) both have a single row of markings on the underside of the hindwings compared to the two rows found in greenish blue (subspecies *insulanus*). The western tailed blue (*Everes amyntula*) has small tails on the edge of the hindwings.

Immature stages: There are no descriptions of early life stages of greenish blue (subspecies *insulanus*). Other subspecies have greenish-white eggs and light green or reddish brown larvae. The larvae have two white lines and a parallel row of white dots along the side of the body.

Species at Risk in Garry Oak and Associated Ecosystems in British Columbia

Plebejus saepiolus insulanus

Life history

What little is known about the life cycle comes from museum collections. Only one generation is produced per year. Adults fly from May through mid-August depending on elevation, yearly weather variations, and location.

Other subspecies of greenish blue use clovers (*Trifolium* spp.) as larval host plants. The eggs are laid singly in host plant flowers and larvae develop on the flowers and fruit. Individuals may overwinter as immature larvae like other subspecies of greenish blue or may overwinter as eggs or early instar larvae like other *Plebejus* species. Males seek females close to host plants. The larvae of other members of the subfamily Lycaeninae produce honeydew for ants in exchange for protection from predators. It is unknown whether greenish blue (subspecies *insulanus*) is associated with ants.

Habitat

The descriptions accompanying the historical records are vague. The most recent records are from mountains and hills with Garry Oak ecosystems in the Victoria area and from subalpine areas on southeastern Vancouver Island. Other greenish blue subspecies are found in disturbed habitat such as roadsides, old campgrounds and streambanks.

Although clovers are assumed to be the larval host plant, it is unknown whether greenish blue (subspecies *insulanus*) requires native clover species or not. The closely related subspecies *P. saepiolus* ssp. *amica*, which occurs east of the Cascade Mountains, can subsist on non-native clovers such as white* (*Trifolium repens*), red* (*T. pratense*), and alsike clover* (*T. hybridum*). Other subspecies of greenish blue in the Pacific Northwest use native springbank clover (*T. wormskioldii*), a primarily low elevation species unlikely to occur in the higher elevation sites recorded. There are a number of native clovers (e.g. *T. wildenowii*) that occur in upland Garry Oak ecosystems that may have served as food plants. It is unknown whether greenish blue (subspecies *insulanus*) also feeds on native and non-native *Lotus* species and/or low elevation lupine species after clovers dry out.

Why the species is at risk

The reason for the disappearance is unknown although the quality and quantity of available habitat has declined substantially. Development of Garry oak ecosystems has fragmented and eliminated much potential habitat. The encroachment of invasive species, in particular non-native shrubs and invasive grasses, has caused further degradation of native habitat. Fire suppression has allowed invasion by shrubs and trees into open habitats. Degradation of habitat has increased threats from disease, predation, and weather events.





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What you can do to help this species

Management practices should be tailored to the specific circumstances at the site. Potential management tools will depend on the specific circumstances and may require experimentation on other subspecies of greenish blue prior to implementation. **Before taking any action, expert advice must be obtained and no action taken without it. Please refer to the introductory section of this manual.**

If patches of suitable habitat with native clover species can be maintained, this may eventually permit natural re-colonization or human assisted re-introduction of this species, if it still exists. Habitat protection will also benefit other native species that rely on these habitats.

If you see this species, DO NOT CAPTURE it, but take clear photographs if possible and record other pertinent information. Detailed information should be given to the Conservation Data Centre in Victoria (<http://www.env.gov.bc.ca/cdc/index.html>).

References

- Garry Oak Invertebrates Recovery Implementation Group. 2007. Recovery Strategy for the Greenish Blue *insulanus* Subspecies (*Plebejus saepiolus insulanus*) in British Columbia, Canada. Prepared for the B.C. Ministry of Environment, Victoria, BC.
- Guppy, C.S. and J.H. Shepard. 2001. Butterflies of British Columbia. UBC Press, Vancouver, British Columbia in collaboration with the Royal British Columbia Museum.
- Miskelly, J. 2008. Personal Communication. Entomologist, Victoria, BC.
- Shepard, J.H. 2000. Status of Five Butterflies and Skippers in British Columbia. BC Ministry of Environment, Lands and Parks, Wildlife Branch. Working Report. WR-101.
- Government of Canada. 2008. Species at Risk Public Registry: Island Blue. Available online at: http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=651

For further information, contact the Garry Oak Ecosystems Recovery Team, or see the web site at: www.goert.ca.

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*Refers to non-native species.

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