English name Bremner's fritillary

Scientific name Speyeria zerene bremnerii

Family Nymphalidae (Brushfoots), subfamily Argynninae (Fritillaries)

Other English names Bremner's silverspot, valley silverspot

Other scientific names none

Risk status

BC: vulnerable (S3); blue-listed Canada: COSEWIC: not assessed Global: vulnerable (G5T3T4) Elsewhere: Oregon – possibly extirpated (SH); Washington – imperilled (S2), state candidate for listing

Range/Known distribution

Bremner's fritillary has been recorded from Vancouver Island and the Gulf Islands in British Columbia, the San Juan Islands and Puget Trough in Washington, and the Willamette Valley in Oregon. In British Columbia, it has been found on northern Vancouver Island and near Campbell River, but most records are from southeast Vancouver Island. It has also been recorded in British Columbia's Lower Mainland but these are likely strays or historical populations that are now extirpated.

Recent searches for this fritillary in southwestern British Columbia found only a single thriving population on Salt Spring Island and a few sites elsewhere on Vancouver Island.



Distribution of Speyeria zerene bremnerii • recently confirmed sites O known historical sites



Field Description

Bremner's fritillary is one of the "greater fritillaries," **large fritillaries with silver spots on the ventral hindwing**. The silver spots on the outer margins of the hindwings of this subspecies are low and rounded, usually oval or lens-shaped in outline. In most other fritillaries these spots are larger and more triangular.

IDENTIFICATION TIPS

Look for the silver-spotted ventral surface of the hindwings, with the marginal spots being small and oval. Although Bremner's fritillary is the only subspecies of zerene fritillary in the Georgia Depression, it is similar to the rhodope fritillary (*Speyeria hydaspe rhodope*), which is also found in this area. The rhodope fritillary has darker red-brown coloration and larger, triangular marginal silver spots on the ventral hindwings and more extensive brown markings on the dorsal wing surfaces.

Immature stages: Eggs are a dull cream, 1 mm by 0.6 mm. Mature larvae (caterpillars) are black with two narrow yellow stripes in the middle of the back; their bodies have spiny protuberances which are black on the first two dorsal rows and yellow on the third and fourth rows.

Life History

Bremner's fritillaries have only one generation per year. Adults fly from early July to late August. Mating takes place immediately after adult females emerge from the pupae.

Eggs are laid at the base of a violet plant (*Viola* spp.) or in leaf litter nearby. Larvae hatch in August and then hibernate until the following spring, when they begin feeding on violet plants as soon as these plants have leafed. Larvae are very gregarious in early stages, and mostly solitary as they mature.

Larvae feed on several varieties of violets. Nectar sources for adults are unknown.

Habitat

Butterfly and skipper populations are very closely linked to the availability of larval and adult foodplants. Bremner's fritillaries may be found in moist meadows or dry meadows with permanent springs, where these meadows have not yet been heavily invaded by non-native grasses, Scotch broom* (*Cytisus scoparius*) or other invasive plants.

On Salt Spring Island, moderate grazing has allowed the Bremner's fritillaries to survive by keeping the grasses short and minimising invasion by Scotch broom.

Why the species is at risk

Historically, First Nations peoples set fires that maintained open Garry oak meadows. Butterflies such as Bremner's fritillaries benefited from this practice as these habitats supported foodplants for butterfly larvae and adults. Today, this habitat is disappearing as fires are suppressed and open areas are filling in with trees and shrubs.

As well, remaining open meadows are being lost to urban development, overgrazed by livestock and invaded by non-native shrubs and tall non-native grasses that crowd out the foodplants.

What you can do to help this species

Management practices should be tailored to the needs of this species and its habitat. Potential management tools will depend on the specific circumstances and may require experimentation prior to implementation. Before taking any action, expert advice should be obtained, and no action taken without it. Please refer to the introductory section of this manual.

Protecting open meadows and violet stands in known habitats, and ensuring that they are not overrun with trees, shrubs or tall grasses, will help to maintain these last Canadian populations of Bremner's fritillaries. Maintaining suitable habitats at other locations may eventually permit natural re-colonisation or human assisted re-introduction of this species and 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 (srmwww.gov.bc.ca/cdc).

References

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.

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.