

Euphydryas editha taylori

English name Taylor's Checkerspot

Scientific name *Euphydryas editha taylori*

Family Nymphalidae (Brushfoots) **Subfamily** Melitaeinae (Checkerspots)

Other English names Edith's Checkerspot subspecies *taylori*;
Whulge Checkerspot

Risk status

BC: critically imperilled (S1); red-listed; Conservation Framework Highest
Priority – 1 (Goal 1, Global response; Goal 3, Maintain BC diversity)

Canada: COSEWIC – Endangered (2000)

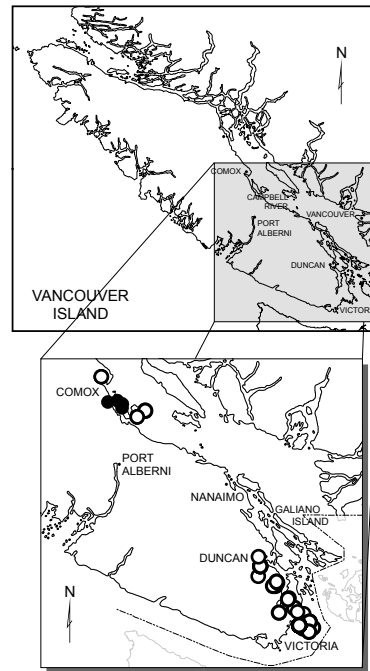
Global: critically imperilled (G5T1)

Elsewhere: Oregon – critically imperilled (S1); Washington – critically
imperilled (S1), candidate for state listing

Range/Known distribution

Taylor's Checkerspot has been recorded from southeastern Vancouver Island, through the Puget Trough to the Willamette Valley in Oregon. It was once common in Garry Oak ecosystems throughout the region but has disappeared from all but 14 locations, most of which are in south Puget Sound.

In British Columbia, the historical distribution of Taylor's Checkerspot included at least 22 sites scattered from Comox south to Victoria. Currently, it is known only from a single population on Denman Island, discovered in 2005, and a single sighting on Vancouver Island north of Buckley Bay in 2008 (likely a dispersing individual or stray from Denman Island). Recently extirpated sites include an abandoned Christmas tree farm and powerline right-of-way southwest of Mill Bay (last recorded in late 1980s) and coastal bluffs in Helliwell Provincial Park on Hornby Island (last recorded in late 1990s).



Distribution of *Euphydryas editha taylori*

- Recently confirmed sites
- Known historical sites



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Male, dorsal view

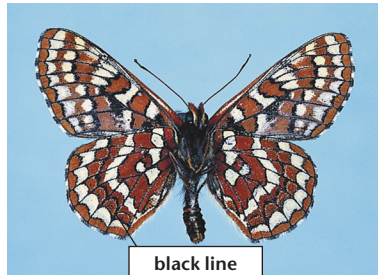


red, black
and white
markings

Female, dorsal view



Male, ventral view



black line
separating
orange and
reddish areas



Claudia Schaefer

Euphydryas editha taylori

All photos: Crispin Guppy except as noted

Field description

Checkerspot butterflies are named because of the striking checkerboard pattern on the dorsal side of the wings. Taylor's Checkerspot, a subspecies of Edith's Checkerspot, is a medium-sized **red-, black- and white-checked butterfly**, although they commonly look black in flight. Adults have wingspans of less than 6 cm.

IDENTIFICATION TIPS

Taylor's Checkerspot is difficult to confuse with any other spring-flying butterfly. The **black line on the ventral hindwing, separating the orange and reddish areas** is a distinguishing feature. The Chalcidon Checkerspot (*Euphydryas chalcidona*), which is thought to be extirpated from southeastern Vancouver Island, appears similar but lacks the black line on the ventral hindwing and its dorsal wing markings are much darker. Males also have a more pointed apex compared to Taylor's Checkerspot.

Immature stages: Larvae (caterpillars) are black with orange dorsal and lateral lines and pronounced black bristles. The bases of the bristles are usually orange. There are no other caterpillars with similar colouration.

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

Euphydryas editha taylori

Life history

Taylor's Checkerspot has one generation per year. While historical populations typically flew from mid-April to late May, the Denman Island population flies from early May to mid-June. Adults do not require specific nectar plants and have been observed sipping nectar on a wide range of flowers. Nectar sources used on Denman Island include Woodland Strawberry (*Fragaria vesca*), Trailing Blackberry (*Rubus ursinus*), and some non-native species such as Oxeye Daisy* (*Leucanthemum vulgare*) and Hairy Cat's-ear* (*Hypochaeris radicata*). On Hornby Island, adults apparently used Spring Gold (*Lomatium utriculatum*) as a primary source of nectar.

Newly emerged larvae feed until the fourth or fifth moult and then enter a period of hibernation (called diapause) until the following spring. Larvae emerge to feed as early as February, then pupate and emerge as adults in early May. Across the species' global range, documented larval food plants include several plantain species (*Plantago* spp.), paintbrush species (*Castilleja* spp.), Small-flowered Blue-eyed Mary (*Collinsia parviflora*), and speedwell species (*Veronica* spp.). Non-native Ribwort Plantain* (*Plantago lanceolata*) is thought to be the primary larval food plant for many of the remaining U.S. populations as well as several of the recently extirpated populations in British Columbia. On Denman Island, Taylor's Checkerspot primarily uses Marsh Speedwell (*Veronica scutellata*) and Thyme-leaved Speedwell (*Veronica serpyllifolia*).

Habitat

Butterfly and skipper populations are closely linked to the availability of larval and adult food plants. Historically, Taylor's Checkerspots were found primarily in maritime meadows and other shallow soil Garry Oak ecosystem sites. Some of the more recent Canadian populations have been associated with disturbed habitats, including recently cleared sites, powerline rights-of-way, and weedy rural properties. The Denman Island population inhabits several recent large clearcuts with vernal-moist areas which support dense speedwell plants, and open areas with abundant adult nectar sources.

Why this species is at risk

The main threats to Taylor's Checkerspot populations on Denman Island are habitat destruction, forest regrowth and, to a lesser extent, Gypsy Moth spray. Several core habitat areas of the Denman Island populations are protected by a new provincial park and the Denman Conservancy Association, but these areas are at risk of natural forest regrowth and succession. Without active management, trees and shrubs such as Red Alder (*Alnus rubra*) and Douglas-fir (*Pseudotsuga menziesii*) will outgrow and shade larval host plants and adult nectar sources. Although European Gypsy Moth is not currently found on Denman Island, its potential to be introduced is high; spray of Btk to control Gypsy Moth is a potential threat to Taylor's Checkerspot. Intensive recreation, changes to site hydrology which negatively impact the vernal-moist areas supporting larval host plant populations, and intensive livestock grazing, are also potential threats to Taylor's Checkerspot. Habitat outside of these protected areas is at risk of future residential and agricultural development.

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Across the species' BC range, habitat has been lost or degraded due to a wide range of factors, including invasion by Scotch Broom* (*Cytisus scoparius*), fire suppression, and urban and agricultural development. In some historical sites, loss of nectar sources as a result of competition from introduced grasses and disturbance from recreational use may be another reason for the decline of this subspecies.

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.**

At many sites on Denman Island, tree and shrub cutting (and possibly soil disturbance) will be required to maintain open habitats which currently support larval host plants and adult nectar sources. Mowing or grazing of sites should generally be avoided as it is likely to disturb suitable habitat and harm larvae, although it may be beneficial under some circumstances. Limit recreation use of occupied sites, particularly use by ATVs. Avoid impacts to site hydrology in areas with larval host plant populations. Avoid the use of pesticides.

At other historically occupied sites, actions should be taken to reduce encroachment by Douglas-fir trees, manage Scotch Broom*, and maintain populations of larval host plants and adult nectar sources. Maintaining suitable habitat in these other areas 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 BC Conservation Data Centre (www.env.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.
- Page, N., P. Lilley, J. Heron, and N. Kroeker. 2009. Distribution and Habitat Characteristics of Taylor's Checkerspot on Denman Island and Adjacent Areas of Vancouver Island (2008). Report prepared for B.C. Ministry of Environment and Parks Canada Agency by Raincoast Applied Ecology. v + 32 pp.

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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