

SOOTY HAIRSTREAK

Satyrium fuliginosum

Original prepared by R.J. Cannings

Species Information

Taxonomy

The Sooty Hairstreak is in the order Lepidoptera and the family Lycaenidae. The Sooty Hairstreak (also known as the Sooty Gossamer Wing) is one of 11 species of *Satyrium* hairstreaks found in Canada. Five subspecies of Sooty Hairstreak are recognized. Only *S. fuliginosum semiluna* is known from British Columbia (Guppy and Shepard 2001). However, the taxonomy of this species is currently under review (P. Opler pers. comm. to N.G. Kondla).

Description

A small hairstreak (wingspan 24–30 mm) with uniform grey-brown upperwings and small diffuse black, white-rimmed spots on the sooty-appearing brown underwings (Guppy and Shepard 2001).

Distribution

Global

Restricted to western North America; from southern British Columbia and extreme southwestern Alberta south to central California, northern Nevada, Utah, and northwestern Colorado (Opler et al. 1995; Guppy and Shepard 2001).

British Columbia

Known from two sites in the southern Okanagan Valley in British Columbia: Anarchist Mountain (three separate collections) (St. John 1995; Guppy and Kondla 2000) and one collection from Keremeos (Layberry et al. 1998).

Forest region and district

Southern Interior: Okanagan Shuswap (Penticton)

Ecoprovinces and ecosections

SOI: OKR, SOB, SOH

Biogeoclimatic units

BG: xh1

PP: dh1 (to SOB and SOH), xh1

Broad ecosystem units

AB, BS, SS

Elevation

400–800 m

Life History

Diet and foraging behaviour

The Sooty Hairstreak occurs on dry, brushy slopes where lupines, the larval host plant, occur. *Lupinus arbustus* occurs within the known range of this butterfly in British Columbia (Guppy and Shepard 2001). Adults have been seen nectaring at mock orange (*Philadelphus lewisii*) flowers (Bird et al. 1995). The known flight period in British Columbia is late May to early July (Guppy and Shepard 2001).

Reproduction

Females lay eggs under lupine plants (Bird et al. 1995); the eggs apparently overwinter (as do eggs of the other *Satyrium* species); larvae feed on lupines through the spring.

Site fidelity

No data.

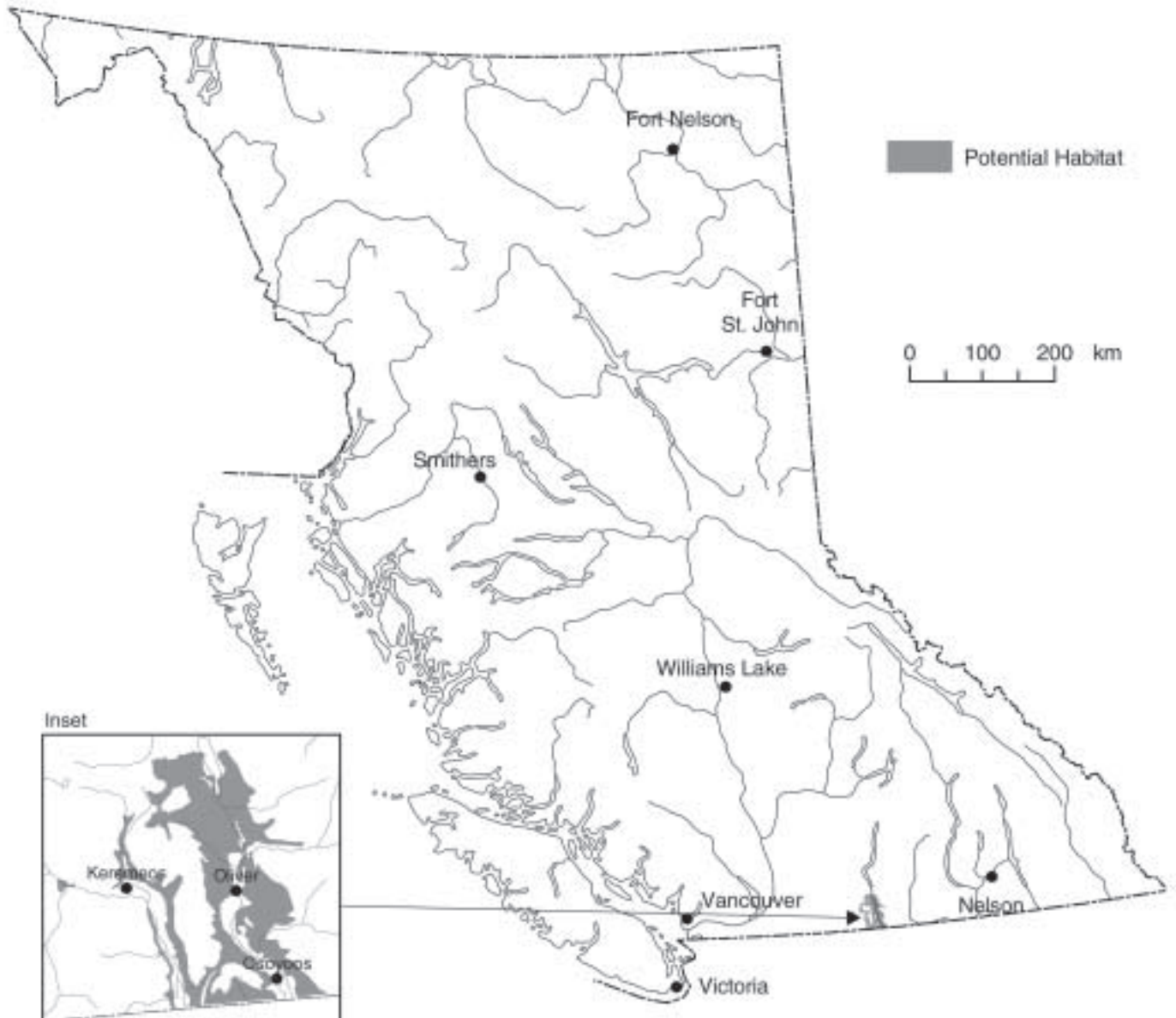
Home range

No data.

Dispersal and movements

Probably low dispersal ability (C.S. Guppy, pers. comm.).

Sooty Hairstreak (*Satyrium fuliginosum*)



Note: This map represents a broad view of the distribution of potential habitat used by this species. The map is based on several ecosystem classifications (Ecoregion, Biogeoclimatic and Broad Ecosystem Inventory) as well as current knowledge of the species' habitat preferences. This species may or may not occur in all areas indicated.

Habitat

Structural stage

2: herb

Important habitats and habitat features

A healthy shrub-steppe environment with adequate densities of lupines (*Lupinus* spp.) is essential.

Conservation and Management

Status

The Sooty Hairstreak is on the provincial *Red List* in British Columbia. Its status in Canada has not been determined (COSEWIC 2002).

Summary of ABI status in BC and adjacent jurisdictions (NatureServe Explorer 2002)

BC	ID	MT	OR	WA	Canada	Global
S1	S?	S4	S?	S4	N1N2	G4

Trends

Population trends

Not known. Sooty Hairstreak is considered uncommon to vulnerable throughout its range (Layberry et al. 1998). Guppy and Kondla (2000) list three occurrences in British Columbia, all in the Anarchist Mountain, Osoyoos area. Layberry et al. (1998) note an occurrence at Keremeos. One or two more occurrences are likely and the total provincial population is probably less than 3000 (C.S. Guppy, pers. comm.).

Habitat trends

More than 200 ha of suitable habitat on Anarchist Mountain have been converted to vineyards within a 2-year period and much of the eastern slopes are being subdivided for rural housing. At least one of these holdings has been fenced and is being grazed by domestic goats. Similar development pressures exist on most privately held habitat in the south

Okanagan and Similkameen valleys, as well as on lands controlled by the local First Nations.

Threats

Population threats

This species has a very restricted distribution in British Columbia and is only known from two sites (four collections), which increases the risk of extirpation.

Habitat threats

Three of the four collections in British Columbia are from Anarchist Mountain just east of Osoyoos; all are threatened by housing or agricultural developments such as vineyards.

Legal Protection and Habitat Conservation

Butterflies are not protected under the provincial *Wildlife Act*. They are protected from collection within national and provincial parks.

No known sites are protected, although the recently created South Okanagan Grasslands Provincial Park protects suitable habitat and may have a small undiscovered population.

Under the results based code, range use plans may be used to address the habitat requirements of this species when mitigation measures are incorporated.

Identified Wildlife Provisions

Wildlife habitat area

Goal

Maintain breeding habitat and larval forage species to prevent local extirpations.

Feature

Establish WHAs at known locations.

Size

Typically between 15 and 25 ha but will depend on area of suitable habitat.

Design

The WHA should be centred on (but not necessarily circular) the known site and encompass the area of suitable habitat (bunchgrass-shrub steppe with lupines).

General wildlife measures

Goals

1. Maintain sufficient cover of lupines (breeding habitat).
2. Minimize soil disturbance.
3. Minimize disturbance to adults and larvae.
4. Maintain native vegetation.
5. Minimize introduction and spread of invasive species.

Measures

Access

- Do not construct roads unless there is no other practicable option.

Pesticides

- Do not use pesticides.

Range

- Plan livestock grazing to maintain desired plant community, desired stubble height, and browse utilization.
- Do not place livestock attractants within WHA.
- Control livestock grazing (timing, distribution, and level of use) to minimize soil disturbance and the introduction of invasive species.

Additional Management Considerations

Minimize spread of invasive species in and around the WHA. Non-herbicide weed control methods are preferred. Where herbicide-based control is approved, measures must be taken to protect non-target plant species (for example, hand wick application and spot treatments of individual weeds).

Do not use fire on Sooty Hairstreak WHAs except when part of a habitat restoration/enhancement prescription for Sooty Hairstreak.

Information Needs

1. Inventory appropriate habitat in the shrub-steppes of southern British Columbia (Thompson-Okanagan-Similkameen) of *S. fuliginosum* (and its larval host plants) in British Columbia, particularly its status in the new South Okanagan Grasslands Provincial Park.
2. Basic ecological information, especially the effect of grazing on reproductive success.

Cross References

Burrowing Owl, Grasshopper Sparrow, Great Basin Spadefoot, “Great Basin” Gopher Snake, Long-billed Curlew, Racer, “Sagebrush” Brewer’s Sparrow, Sage Thrasher, Tiger Salamander, Western Rattlesnake

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