

# Blue-grey Taildropper Fact Sheet



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## Description and Significance

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The Blue-grey Taildropper (*Prophysaon coeruleum*) is named for its colouration and ability to detach its tail as a self defence mechanism when escaping predators (Pearson, 2012). This species is endemic to western North America and is only found on Vancouver Island in Canada. The Blue-grey Taildropper is a rare species, and considered endangered in Canada and Red listed as a British Columbia species at risk (HAT, 2014).



Figure 1. Blue-grey Taildropper (*Prophysaon coeruleum*) image. By Kristiina Ovaska (HAT)

This species plays a significant ecological role in decomposition, soil building, plant matter consumption and prey for various invertebrates and vertebrates (B.C. Ministry of the Environment, 2012). A major significant attribute of the Blue-grey Taildropper is that it spreads mycorrhizal fungi, which grow on the roots of many trees, capturing nutrients from the soil and transferring it to the roots. This is beneficial to the plants and helps to create thriving forests (HAT, 2012). It appears that this species is of little threat to horticulture, as it prefers forest habitats over gardens or croplands; therefore, the Blue-grey Taildropper is not considered a pest (COSEWIC, 2006). According to COSEWIC's status report for the Blue-grey Taildropper in 2006, “with its often-brilliant bluish colouration this species is attractive and could become an emblem of invertebrate conservation in British Columbia”.

## Identification by Defining Features

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There are four other native species of Taildropper slugs on Vancouver Island along with introduced species that the Blue-grey Taildropper might be confused with. Below is a list of distinguishing traits for this species. Visit the Habitat Acquisition Trust (HAT) website for a detailed identification diagram.

- 2 – 3 cm long when fully outstretched
- blue to grey in colour
- mantle covers nearly half the body
- parallel grooves and ridges along the tail
- a breathing pore (pneumostome) on mantle edge
- constriction line near base of tail, where it can be lost as a response to predator threat

## Distribution

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The Blue-grey Taildropper ranges from northern California to the southern tip of Vancouver Island. According to Species at Risk primer of BC, the populations in the northern portion of the range are scattered and isolated (Pearson et al, 2012), and a separated population is known to exist in northern Idaho (Ovaska et al, 2004). Overall, the distribution is fragmented across its range, leading to isolated populations.

As of March 2014, there have been 13 records of Blue-grey Taildropper on Vancouver Island; some of the regions where they were found include the District of Sooke, Metchosin, Colwood, and Saanich (COSEWIC, 2006). The Blue-grey Taildropper has low dispersal abilities, which is likely a contributing factor to its small distribution on Vancouver Island. There may be other locations within British Columbia with similar habitats (ex. lower Fraser Valley region) that contain Blue-grey Taildroppers but due to lack of efforts have not yet been detected (COSEWIC, 2006).

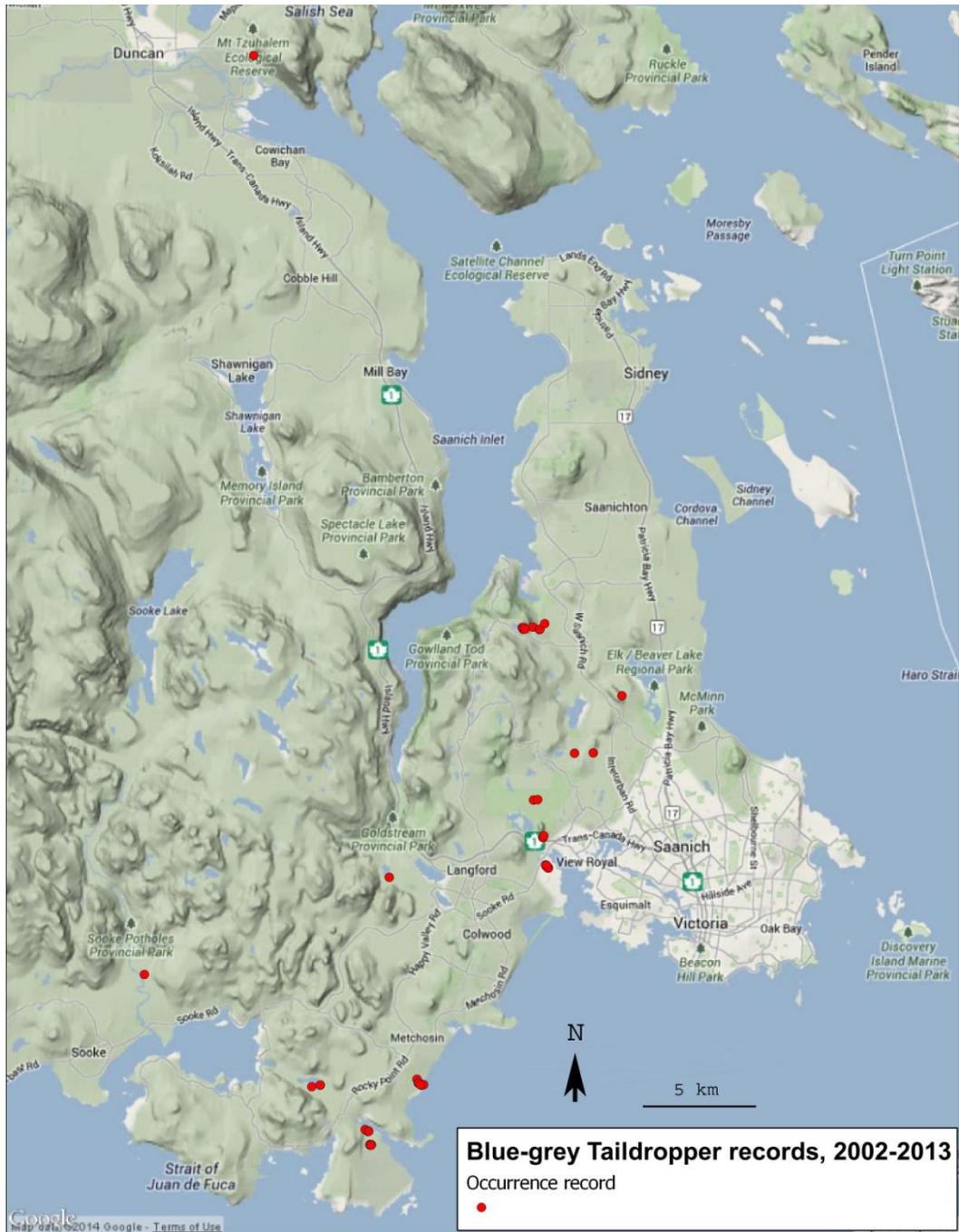


Figure 2. North American distribution of the Blue-grey Taidropper (*Prophysaon coeruleum*). (Ovaska, K. and L. Sopuck. 2014).

## Habitat

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The Blue-grey Taildropper prefers natural woodland, Garry oak meadow, and mature Douglas-fir forest habitats. This species can be found in moist areas along the forest floor, where they receive cover from the sun, which helps prevent desiccation (Pearson et al, 2012). Findings of the Blue-grey taildropper indicate that they exist near sea level (in British Columbia) to 1,650 metres above sea level (in Oregon) (Wilke and Duncan 2004).

## Life History

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Blue-grey Taildroppers are believed to have a 12-month life cycle, growing and breeding within a year (COSEWIC, 2006, p. iv). The absence of adult specimens in catches in early spring, in both the United States and British Columbia, indicates that individuals do not survive the winter, with future generations overwintering as eggs. This species of slug is hermaphroditic, possessing both female and male reproductive organs, and lays eggs. Although *P. coeruleum* may be capable of self-fertilization, there is no evidence to support this; therefore, cross-fertilization is their accepted mode of conception (COSEWIC, 2006, p. 14).

## Why the Species is at Risk

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Due to the very small area of occurrence (~ 150 km<sup>2</sup>) and extent of occupancy (< 5 km<sup>2</sup>), in conjunction with a decline in quality habitat, the Blue-grey Taildropper is listed on Schedule 1 of the Species at Risk Act as Endangered (Blue-grey Taildropper Recovery Team, 2012, p. iv). Major threats to this species are from "habitat loss, fragmentation, and degradation through human activities and land conversions" (COSEWIC, 2006, p. v). Favourable habitat requires negligible invasive plant species and rival introduced gastropods, (Blue-grey Taildropper Recovery Team, 2012, p. iv) and minimal predation by introduced or native animals (COSEWIC, 2006, p. v). Logging within suitable habitat, modification of natural systems, pollution, and climate change induced drought are also reasons why the Blue-grey Taildropper is at risk in Canada (Blue-grey Taildropper Recovery Team, 2012, p. iv). On southern and eastern Vancouver Island, forest habitat is decreasing at a disturbing rate; this amplifies the probability of local extinction due to increasingly segregated populations in remnant forest habitat (COSEWIC, 2006, p. v).

## What Can be Done to Help

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Recovery is believed to be both biologically and technically feasible for the Blue-grey Taidropper in British Columbia; however, recovery would require assured protection and management of known habitat locations. In order to accomplish this, a full assessment of current threats at all known locations must be performed, along with the implementation of achievable mitigation measures, which help maintain critical habitat zones. Moreover, knowledge gaps in habitat requirements, known range and extent, and potential range and extent for the Blue-grey Taidropper would also need to be addressed (Blue-grey Taidropper Recovery Team, 2012, pp. iv-v).

Landowners can help to preserve Blue-grey Taidropper habitat by maintaining natural areas on their property. This can be accomplished by outlining pathways in order to safeguard ground cover, and by eliminating invasive plants species, such as Spurge Laurel (*Daphne laureola*) and Scotch Broom (*Cytisus scoparius*), in order to protect native plant species from competition; furthermore, retaining large woody debris on the forest floor, and allowing leaf litter to accumulate, will also help maintain critical habitat for Blue-grey Taidroppers, as well as many other invertebrate and vertebrate species. Finally, maintaining Garry Oak meadows and open forest areas, both on private lands and publicly owned properties, could greatly increase the distribution of Blue-grey Taidroppers, helping to ensure species survival (Ovaska, 2013).

## Protection, Status, and Ranks

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The Blue-grey Taidropper has a global status of G3G4, which is a numeric range rank that is used to show the degree of uncertainty between Vulnerable and Apparently Secure; however, a rounded global status of G3, Vulnerable, is also specified (NatureServe, 2014).

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC), designated the Blue-grey Taidropper as Endangered in April 2006 (COSEWIC, 2006, p. iii). An endangerment designation implies that the species is facing impending extinction or extirpation (COSEWIC, 2006, p. vi). Because of the COSEWIC designation, the Blue-grey Taidropper was listed on Schedule 1 of the Species at Risk Act as Endangered (Blue-grey Taidropper Recovery Team, 2012, p. iv). This listing comes with legal protection, whereby it becomes illegal to kill, harass,

capture or harm Blue-grey Taildroppers in any way, including through destruction of critical habitat, which is yet to be identified. Furthermore, this act requires a recovery strategy, action plans, and management plans be developed.

In British Columbia, the Blue-grey Taildropper was placed on the provincial Red List in 2005; Red listed species are those that are Extirpated, Endangered, or Threatened in British Columbia" (COSEWIC, 2006, p. v). The Conservation Data Centre has ranked *P. coeruleum* as critically imperiled and "the B.C. Conservation Framework ranks Blue-grey Taildropper as a priority 1 under goal 3 (maintain the diversity of native species and ecosystems)" (Blue-grey Taildropper Recovery Team, 2012, p. iv).

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