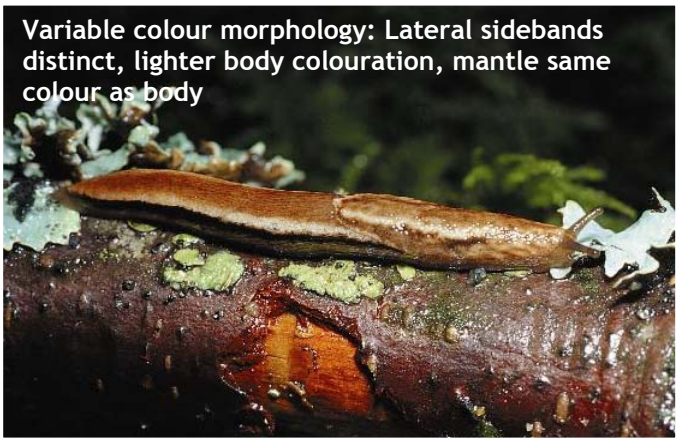
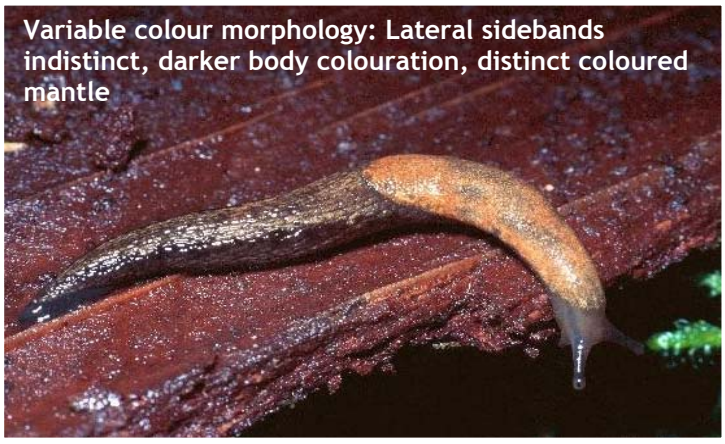
BC's Coast Region: Species & Ecosystems of Conservation Concern
Scarletback Taildropper (*Prophysaon vanattae*)

Global: G4, Provincial S3S4, COSEWIC: N/A BC List: Blue



Variable colour morphology: Lateral sidebands distinct, lighter body colouration, mantle same colour as body

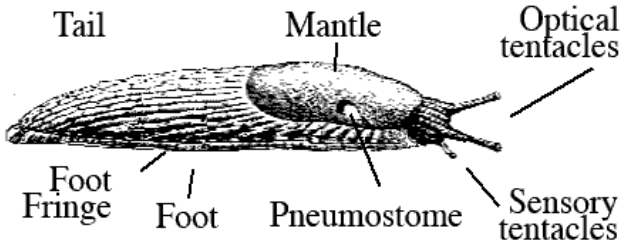


Variable colour morphology: Lateral sidebands indistinct, darker body colouration, distinct coloured mantle

Notes on *Prophysaon vanattae*: A member of the family Arionidae ("roundback slugs"), this species is also referred to as "scarlet-mantled" taildropper. The term "slug" is used to refer to a mollusk where the shell is lacking, reduced or is residualized internally within the animals body. *Prophysaon* or "taildropper" slugs are "pulmonate" (air breathing through an internalized lung-like structure), terrestrial mollusks. Species in this genus are capable of "autotomy" (self-amputation) of a portion of their caudal area (tail), a mechanism to confuse or elude predators. The amputated tail portion may regenerate later. Much of this species biology is inferred from other native slug species.

Description *Length 2.5 to 5 cm*. Terrestrial slugs can be quite variable in colour and patterning. Generally, scarletback taildropper is reddish in colour (especially dorsally – but not always), grey-buff along the sides, with two conspicuous dark bands running laterally from the mantle to the tail. These bands define a wedge-shaped lighter dorsal area which may enclose a (sometimes faint), dark dorsal stripe at midline. The sole (bottom of foot), is usually cream colored but can be grey. The pneumostome (pore used for air breathing) is located at or in front of the midline of the mantle covering the right side. The tail often has oblique constrictions (not always), that mark the area where autotomy has occurred. A mucus pore usually found on the tail area of other slugs is absent.

Slug Anatomy



Diet As with most other terrestrial mollusks this species likely has a generally 'vegetarian' diet, foraging on a range of herbaceous plants, lichens, fungi and decomposing matter in the leaf litter.

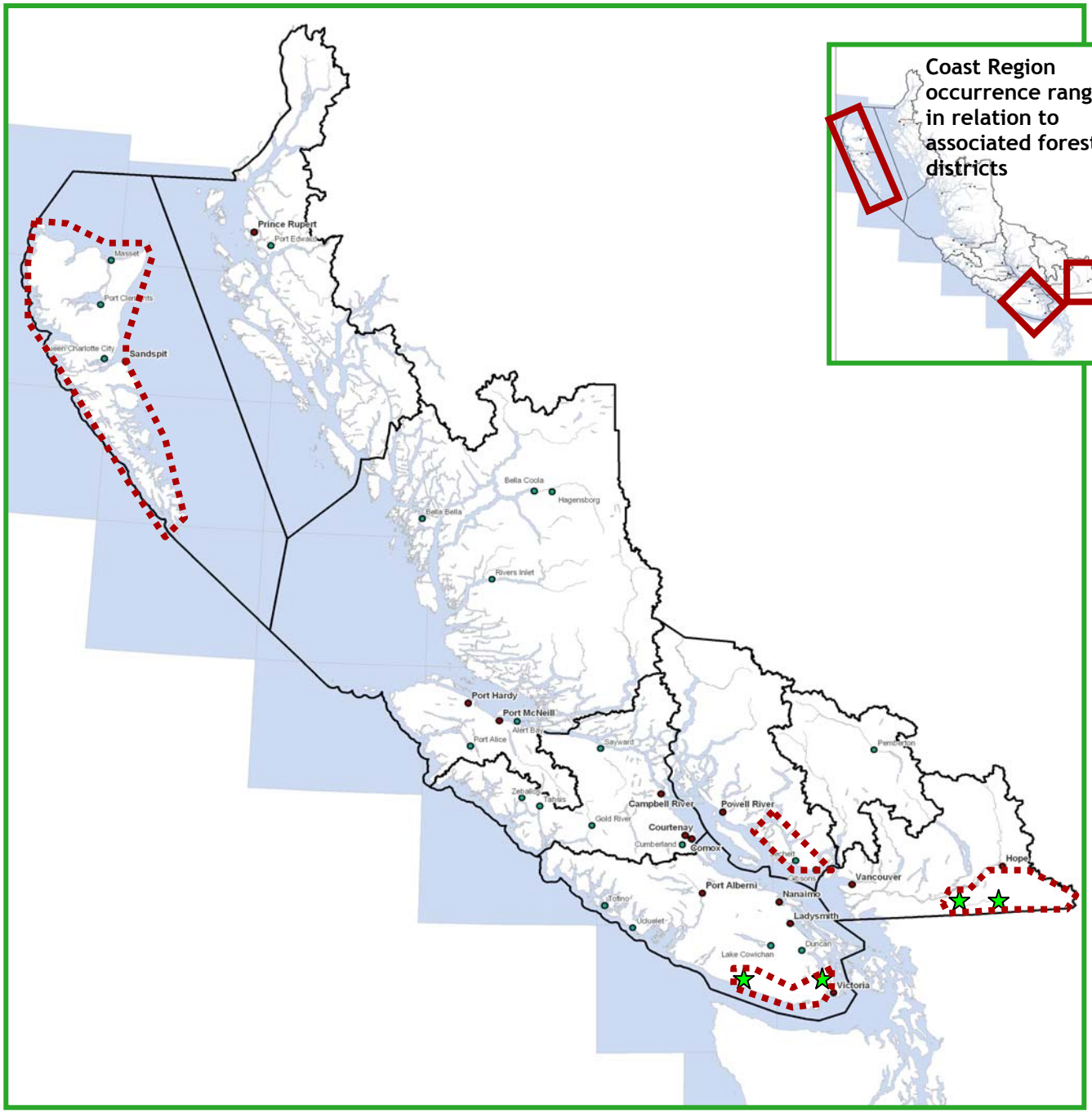
Look's Like? This species may be confused with one of the many introduced and variably coloured introduced slugs, i.e. from the genus Arion (e.g. chocolate arion). Scarletback taildropper are more slender than *Arion* slugs, do not contract into a ball when disturbed, and show a faint groove near the tail where self amputation may have occurred (though not always present). The dark lateral bands and lack of a light line at the mid-line of the tail when viewed from above can be a useful diagnostic to differentiate scarletback taildropper from other slug species (including other co-occurring taildropper species such as reticulate taildropper).

Light line along mid-line of tail absent in scarletback taildropper

Reticulate Taildropper

Distribution

Elevations near sea level up to 1220 m. Scarletback taildropper is known from the east side of the Cascades, west to the coast from Oregon, Washington State and north into Canada on the Coast Region from the Fraser Lowlands, Vancouver Island, Sunshine Coast and Haida Gwaii. While considered widespread where suitable habitat (intact mixed and coniferous forested areas) occurs within its range, it is known from only scattered locations.



Scarletback Taildropper (*Prophysaon vanattae*), known occurrences (green stars) and range (red-dotted line)[1] for the Coast Region.

[1] Actual northern and eastern limits of scarlet taildropper distribution in BC is presently unknown, the species is likely much more widely distributed based on ongoing discovery of new occurrences.

Habitat Preferences

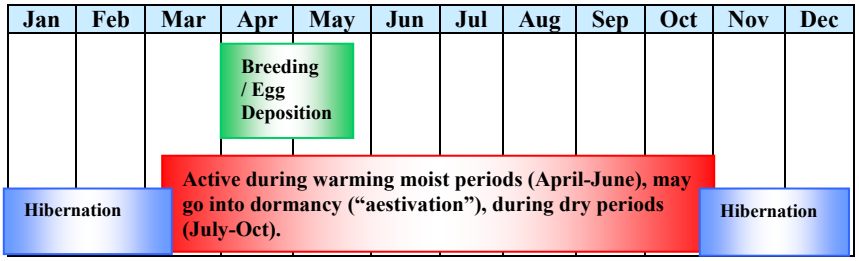
On the forest floor, scarletback taildropper are often associated with decaying logs and other coarse woody debris. Skunk cabbage patches are frequented in spring. Riparian areas with red alder as well as the edge areas along coniferous and mixed-wood stands, moist shrub areas and open coniferous forest with *Sphagnum* moss are also utilized. Scarletback taildropper seem to be partially arboreal, and have been found in moss mats on tree trunks up to 2 m off the ground.

Critical Features

Moist microclimates afforded by coarse woody debris, especially larger pieces, are likely important for providing winter hibernacula and summer warm weather refugia.

This species occurs in several types of forests, ranging from coniferous stands to mixed-wood forests. The common factor is a moist, structurally diverse understory.

Seasonal Life Cycle



Little is known about this species distribution or abundance and even less is known about site preferences for egg laying or juvenile dispersal. Life history information is inferred from other related species.

Threats

- Distribution of this species coincides with areas undergoing logging, land clearing and habitat fragmentation.
- In general, terrestrial slugs have a low tolerance to drying and exposure, are not extensively mobile, and are slow to disperse. This leaves them extremely vulnerable to activities that impact microclimate conditions, decrease food supplies available or create barriers to dispersal (e.g. land clearing, road development and paving).
- Backcountry and passive recreational activities (e.g. ATV and mountain biking) can result in impacts to forage plant communities and essential habitat features as well as direct mortality.
- The degree of competition from introduced slugs, such as species of the genus *Arion* is unknown.
- The level of impact from misidentification of native slugs as introduced pests, and subsequent pest control or extermination is unknown.
- Colonization of native plant communities by invasive and exotic plant species can reduce and eliminate preferred food plants and alter habitat structure and microclimate and moisture regimes.
- Use of pesticides in silviculture practices.

Conservation & Management Objectives

- Apply conservation and management objectives as set-out in the "Draft Gastropod Best Management Practices Guidebook Oregon Forestsnail and Other Land Snails at Risk in the Coastal Lowlands."
- Inventory and assessment methods should follow those set out in the "Draft Gastropod Best Management Practices Guidebook Oregon Forestsnail and Other Land Snails at Risk in the Coastal Lowlands." Integrate appropriate measures as set out in the RISC Standards #40 "Inventory Methods for Terrestrial Arthropods." Assessments should not discount or

solely rely on existing literature when scoping study areas for the potential presence of this or other terrestrial slug species. Slugs may occupy different habitats in different landscapes and situations.

Specific activities should include:

- Determine the full range extent of this slug species on the Coast Region.
- Avoid land use decisions which lead to a need to salvage and relocate populations of terrestrial mollusks to reduce competition impacts and potential extirpations of local populations.
- Maintain areas of connectivity and larger home ranges where seasonal habitats such as winter hibernation or summer aestivation sites are widely separated, or where habitat is of lower quality. Minimum size of areas that can support a viable population of slugs is unknown but must contain habitat features required for all seasonal activities and developmental stages.
- Avoid activities in areas of high suitability or known occurrence which alter habitat and microclimate regimes (controlled burns, invasive plant removal, clearing or salvaging/relocation during summer aestivation or winter hibernation periods).
- Maintain forest floor structure, including coarse woody debris and moist forest floor conditions.
- Implement integrated pest management approaches that reduce the need for chemical pest control activities that may impact native mollusk species.
- Greater education and outreach with private property owners and resource use interests is required to improve knowledge about the value of these unique terrestrial mollusks and the impacts of land use activities.

Habitat for scarletback taildropper may be subject to protections and prohibitions under the BC Wildlife Act and may also be governed under other provincial and federal regulations including the Fish Protection Act and Federal Fisheries Act as well as Regional and local municipal bylaws.

Content for this Factsheet has been derived from the following sources

B.C. Conservation Data Centre. 2010. [Internet] Conservation Status Report: *Prophysaon vanattae*. BC MoE.
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Prepared by: Pamela Zevit of Adamah Consultants and Kristiina Ovaska and Lennart Sopuck Biolinx Environmental for the South Coast Conservation Program (SCCP) in partnership with: International Forest Products (Interfor), Capacity Forestry (CapFor) and the BC Ministry of Environment (BC MoE), E-Flora and E-Fauna the Electronic Atlas of the Flora and Fauna of BC, Species at Risk & Local Government: A Primer for BC. Funding for this factsheet was made possible through the Sustainable Forestry Initiative (SFI): http://www.sfiprogram.org/

Every effort has been made to ensure content accuracy. Comments or corrections should be directed to the South Coast Conservation Program: info@sccp.ca. Content updated August 2010.

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