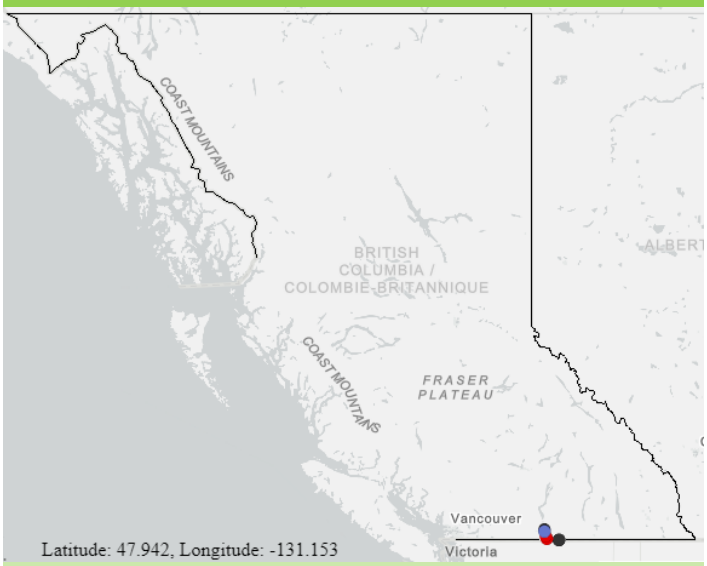
Puncture Vine

Tribulus terristris L.

FACT SHEET

Squamish: Prevent | Whistler: Prevent | Pemberton: Prevent

DISTRIBUTION



May To Oct.

June To Oct.

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Origin: Puncture Vine originates from the Mediterranean region. It was probably transported to North America in sheep's wool. In North America, it was first recorded in California in 1903. The first Canadian record of Puncture Vine dates back to the early 1970's.

Habitat: Puncture Vine can tolerate a wide range of conditions, and generally requires less water than most plants. Puncture Vine thrives in dry, loose, sandy or gravely soils and disturbed areas, but it will also grow in heavier soils, especially when these are fertile or moist, as well as in compacted soils.

Reproduction: This plant reproduces solely by seed. Without competition, a single plant may produce up to 1 million seeds in a season.

IDENTIFICATION

L. Scott

Flowers: Produces yellow flowers with 5 petals, 7 - 15 mm across. Flowers only open in the mornings.

Stems: Are green to reddish brown and covered in fine hairs. Puncture vine stems are branched and radiating from a central axis, up to 2m long. While it normally grows in dense mats, it may take a more upright form if it is competing for light.

Leaves: Are composed of 3 - 8 pairs of opposite, oblong leaflets; each leaflet is 5 - 15 mm long and 3 - 5 mm wide. The upper surface of the leaves is darker than the underside.

Roots: Puncture Vine has a shallow taproot.

Seeds: Are sharp-pointed and 2 - 6 mm long. Each seedpod consists of 5 sections that, at maturity, break into tack-like structures (burs) with sharp spines. Two to four seeds are found within each bur.

Similar Species:

- Native: Puncture Vine is sometimes confused with Common silverweed (*Potentilla anserina*), as it also is a small-leaved, mat-forming or low-growing plant.

Also Known As:

- Alternate Latin names: ***Tribulus hispidulus Presi, T. lanuginosus L., T. terrestris L. var. hispidissimus Sond.***
- Alternate common names: Bendy-eye; common caltrop; common puncture vine; double gee; malta cross; bullhead; goathead.

Vectors of Spread: "Hitchhiking" is the primary mechanism of dispersal for Puncture Vine, as the fruits easily become attached to livestock, people, farm machinery, and tires for dispersal. The spiny fruits are aligned so that at least one spine is pointing upwards when lying on the soil surface. Puncture vine may also be dispersed by water or as a contaminant in hay, straw, manure, sand, gravel, and dried fruit.

WHAT CAN I DO?

Puncture Vine is not yet found in the Sea to Sky Region, so PREVENTION is key:

- Regularly monitor properties for weed infestations.
- Ensure soil and gravel are uncontaminated before transport.
- Don't unload, park, or store equipment or vehicles in infested areas; remove plant material from any equipment, vehicles, or clothing used in such areas and wash equipment and vehicles at designated cleaning sites before leaving infested areas.
- Minimize soil disturbances (e.g. use grazing plans that prevent soil exposure from overgrazing), and use seed mixes with dense, early colonization (e.g. alfalfa or barley) to re-vegetate exposed soil and resist invasion.
- Ensure plants (particularly flowering heads, seeds and root fragments) are bagged or covered to prevent spread during transport to designated disposal sites (e.g. landfill). **Do NOT compost.**

Puncture Vine can be controlled by:

- **Mechanical Control:** Young plants and small infestations can be controlled by hoeing or hand-pulling plants, but treatment must take place before the plant flowers and sets seed.
- **Chemical Control:** Chemical treatment works best when used on young and actively-growing plants. Glyphosate, 2,4-D, or dicamba can be used on Puncture Vine. We recommend that any herbicide application is carried out by a person holding a valid BC Pesticide Applicator Certificate. Before selecting and applying herbicides, you must review and follow herbicide labels and application rates; municipal, regional, provincial and federal laws and regulations; species-specific treatment recommendations, and site-specific goals and objectives.
- **Cultural Control:** Shallow cultivation is an effective means of cultural control for Puncture Vine, but deep ploughing is ineffective because it tends to bury the seeds, which extends their lifespan. Ensuring that a healthy, competitive plant community of perennial grasses is maintained also helps prevent any new seedlings from sprouting and taking root.
- **Biological Control:** A stem weevil (*Microlarinus larenyii*) was released in the Okanagan in the 1980's, but this agent has yet to successfully establish. There are therefore no biocontrol agents for Puncture Vine in BC at this time.

If you suspect you have found Puncture Vine anywhere in the Sea to Sky region:

Contact the Sea to Sky Invasive Species Council to report and for the most recent, up to date control methods. All reports will be kept confidential.

References: Canadian Food Inspection Agency, Electronic Atlas of the Flora of BC, Invasive Species Compendium, Fraser Valley Invasive Species Society, Government of Alberta, Government of BC, Lillooet Regional Invasive Species Society, Okanagan Invasive Species Online.

IMPACTS

Ecological:

- Causes injuries to the mouths, eyes, digestive tracts and skin of livestock.
- If ingested, Puncture Vine is toxic to livestock.
- Outcompetes native species

Economic:

- Spiky fruits (burs) can damage equipment on farms and harm livestock.
- The burs can puncture skin and tires.

REPORT SIGHTINGS

Visit ssisc.ca/report