

Soliva sessilis

CARPET BURWEED

ENGLISH NAMES Carpet burweed,
lawnweed, field burweed
SCIENTIFIC NAME *Soliva sessilis*
FAMILY Asteraceae



Photo Credit: © ADOLF CESKA/E-FLORA BC

Carpet burweed is a low-growing winter annual plant with many single-spined seeds forming a compact seedhead.

RANGE/KNOWN DISTRIBUTION

Carpet burweed is native to South America. It has now been naturalized in Canada (British Columbia), the United States (the western and southern states), New Zealand, Australia, Taiwan and parts of Europe and Africa. The first Canadian report was in Ruckle Park on Saltspring Island in 1996. It is now also found in southwestern British Columbia on Vancouver Island, the Gulf Islands and the Lower Mainland.

IMPACTS ON GARRY OAK AND ASSOCIATED ECOSYSTEMS

Once established, carpet burweed has the ability to spread and develop into a dense “carpet” that prevents the growth of other species. Its competitive advantage over native species might be due to its ability to flower and set seed throughout the growing season, particularly very early in the spring. When it dies off in the summer it leaves patches of bare soil, providing ideal habitat for its own seeds to germinate and further enhance the infestation. In Garry oak and associated ecosystems it is commonly found with rare plant species with a similar pattern of seasonal growth. The rare species may be threatened by the burweed due to direct competition and inadvertent damage caused by the use of improper control techniques.

FIELD DESCRIPTION

Carpet burweed is a low and spreading winter annual, growing to 7 cm tall and 25 cm across, but more often prostrate and less than 2 cm high. Each plant has up to 10 hairy spreading stems growing from the base; these are often dark or purple-spotted. The leaves are basal and sparsely hairy. They are highly dissected and fern-like, while the first pair of leaves is long and lance shaped. The yellow-green flowers are small, inconspicuous, and disk-like. The seeds are spined achenes grouped in a tiny, sunflower-like head, having the form of a bur and

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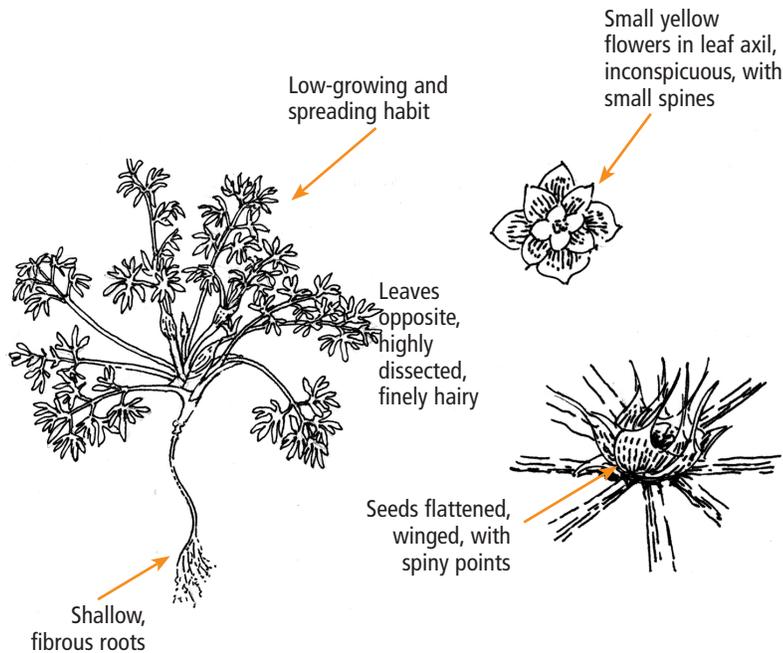


Illustration by Briony Penn, Briony Penn Associates, SaltSpring Island, BC.

giving the species its common name. The small (3-4 mm) seeds are flat, have stiff hairs and are tipped with a long up-turned spine.

LIFE HISTORY

Carpet burweed is an annual plant that grows through the winter. It begins to develop very early in the season and also matures very quickly. It can flower soon after germination and has no photoperiod requirements, flowering any time from March to July. The plants then produce ripe seeds (5-100 seeds per plant in BC) in late spring to summer and then die off and dry up in late summer. Seeds remain dormant throughout the summer drought and germinate intermittently when the soil is moist from October through July. The spiny seeds aid in dispersal by attaching readily to animals or clothing and shoes.

HABITAT

Carpet burweed is found in open, grassy locations that are exposed to full sun. It is also found where there is disturbance and soil

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compaction. Common habitats include close mown or trampled grasslands, pastures, turf (e.g. lawns, playing fields and golf courses), roadsides, paths, and other disturbed areas. The most vulnerable areas are those that are wet in winter and trampled and dry in summer.

MANAGEMENT

The carpet burweed infestation is relatively new in British Columbia. This is therefore the best time to launch management activities for its control, before it becomes more widespread and the cost of eradication increases drastically.

Develop a long-term, realistic program for invasive species removal before undertaking any work. Before taking action, obtain expert advice. Please refer to the introductory section of this manual.

PHYSICAL CONTROL: For small infestations having only a few individuals, hand pulling is a feasible control option. To avoid spreading the seeds, pulled plants should be carefully disposed of by bagging and sending to a landfill. Plants with any chance of having viable seed should not be composted as seeds are not killed and will be spread with the compost. Mowing is ineffective due to the low stature of carpet burweed.

BIOLOGICAL CONTROL: No biological control agents are currently known for carpet burweed.

CHEMICAL CONTROL: Some success has been had in controlling carpet burweed with herbicides. However, in New Zealand and Australia, resistance to some selective herbicides (ie, picloram, clopyralid, and triclopyr) has been reported. It is therefore recommended that successive chemical treatments use alternating classes of herbicides to prevent the development of resistance. Selective herbicides should be used in order to minimize damage to the surrounding native vegetation. *Herbicides should only be used with extreme caution, and under expert advice, in sensitive Garry oak ecosystems.*

OTHER TECHNIQUES: Carpet burweed is primarily controlled by heat treatment, particularly for larger infestations where hand-pulling is not feasible. This consists of burning the plants with a propane-fired hand torch. Seeds are not easily killed and so treatment may have to be repeated periodically until germination is halted.

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PREVENTATIVE MEASURES: Infested areas should be fenced off to prevent entry by humans and animals and the spread of seeds into uninfested areas. Check all clothing and shoes, tent floors and ground sheets, backpacks and other gear, as well as animals' coats for attached seeds when leaving an infested area and carefully remove all that are found. Soil from infested areas should not be moved. New infestations should be treated right away and early in the season before plants set seed and spread. As this is also a common turf weed, maintenance of healthy, tall and thick turf through high mowing and proper fertilization regimes can prevent its establishment in these areas.

PERSISTENCE: Carpet burweed is an annual plant and does not appear to produce an extended, persistent soil seed bank.

SELECT REFERENCES

Castro, K. 2006. Weed risk assessment: Carpet burweed (*Soliva sessilis* Ruiz & Pav.). Canadian Food Inspection Agency. Ottawa, ON. 38 pp.

A comprehensive annotated bibliography of literature specific to carpet burweed is available at www.goert.ca.



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