

# Yellow Archangel *Lamium galeobdolon L.*

## About Yellow Archangel

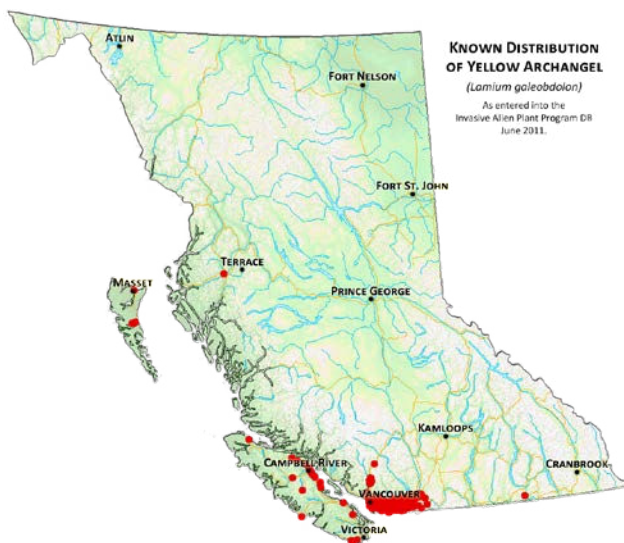
There are many subspecies of *L. galeobdolon* which can also have subtle variations between cultivars. Most subspecies are very invasive and grow in various environments and habitats. It is commonly found in shaded to partial shaded habitats which include in wooded areas. Most infestations in natural areas are a result of a garden escape. It can easily out-compete native groundcovers. Fortunately it is easily pulled out which makes this manual control task easier.

## Distribution

Currently abundant in the Lower Mainland, yellow archangel can also be found on Vancouver Island and the Gulf Islands along with several isolated patches within BC.

## Legal Status

None



Yellow Archangel Distribution  
(2011)

## Identification

It is in the Mint family. Its shared features include helmet-shaped or hooded flowers, square stems, stolons, and opposite leaves.

**Flowers:** Small, yellow flowers are arranged as whorls in leaf axils. Flowers consists of five modified petals to form a two-lipped bloom and have pale yellow upper petals and yellow lower petals with orange-brown markings. They bloom in spring from April to June.

**Stems:** Erect, 4-sided (square) stems grow on average to 30 cm, but may grow as tall as 60 cm. Yellow archangel has perennial stems that also produce stolons which grow horizontally.

**Leaves:** Leaves are hairy and generally oval to heart-shaped with round-toothed margins. Their color is variegated dark green with silver contour along the outer margin. Yellow archangel is typically an evergreen except in colder climates where they may lose some or all of the foliage.

**Fruits:** There are four nutlets per flower, each nutlet contains one seed.

**Similar Non-Native Species:** Herman's Pride (*Lamiastrum galeobdolon var.*), Goutweed/Bishop's weed (*Aegopodium podagraria variegata*)



Yellow Archangel



THIS INTRODUCED SPECIES HAS  
BECOME INVASIVE IN

# woodland ecosystems

## Ecological Characteristics

**Habitat:** In North America, this introduced species has become invasive in woodland ecosystems. Its ability to adapt to a broad spectrum of habitats and conditions make it very successful at out competing native flora.

Yellow archangel thrives in full shade forests with moist soil rich in organic matter but can survive comfortably in drier, well-drained soil and partial shade.

It has also been known to survive extremes such as periods of drought and in soils with high pH like those found under cedar and hemlock trees.

**Reproduction:** Reproduction is by seed and vegetatively by horizontal stems called stolons. The stolons produce roots and erect shoots at leaf nodes closest to the ground. This can form extensive ground cover from one individual plant.

**Dispersal:** Sold to gardeners as a hardy, low maintenance groundcover species, this invasive can escape by stolons crawling under and over fences into woodland margins, parks, ditches, ravines and other natural spaces. Stem fragments can form an entirely new plant and when found in compost or improperly disposed of garden waste it can create new populations away from the parent plant. Seeds are a secondary form of dispersal. They are dispersed by animals and humans passing through the vegetation, while ants have been reported to transport seeds up to 70 metres from the parent plant.

## Impact

**Ecological:** Vigorous growth of yellow archangel enables it to out-compete native species by blocking access to sunlight and restricting space availability with its extensive root system. It can quickly reduce the diversity in woodland understories, riparian systems and transitional ecosystems. The success of its vegetative reproduction makes it very difficult to reduce established communities. The dense monocultures of *L. galeobdolon* impact not only flora but also the local fauna by reducing food availability for wildlife. The reduction in plant diversity impacts local pollinator communities as it limits access to flowers in the spring months. This means insect communities have to spend vital energy resources searching farther for booms in the summer and early fall.

**Agricultural:** Can displace shade tolerant crops and reduce yields.

## Integrated Pest Management

*IPM is a decision-making process that includes identification and inventory of invasive plant populations, assessment of the risks that they pose, development of well-informed control options that may include a number of methods, site treatment, and monitoring.*

### A. Prevention

Avoid purchasing *Lamium galeobdolon* at garden centres or in pre-arranged hanging displays; always seek out native species with similar qualities instead.

- » If it is already in your garden, monitor its margins and prevent stolons from invading natural spaces.
- » Do not compost any part of this plant as it can propagate from stem fragments. Properly dispose of unwanted hanging baskets, they can contain seed or stem fragments.
- » It has been reported that some infestations have been directly linked to the dumping of hanging baskets.
- » Encourage local garden centres and local municipalities to provide non-invasive plant options and to refrain from introducing invasive plants on public lands while landscaping.



## B. Chemical Control

Herbicide recommendations and use must first consider site characteristics and be prescribed based on site goals and objectives. Herbicide labels and other sources of information must be reviewed before selecting and applying herbicides.

- » Herbicide use is limited due to yellow archangel being found in wet soils, riparian areas and other drainage areas. If used, herbicide runs the risk of entering the water column, harming desirable native species.
- » Do a site survey prior to formalizing your pest management plan to identify any herbicide-free zones.
- » Glyphosate, triclopyr, or imazapyr has been recorded as effective herbicides for yellow archangel. Tank mixtures of glyphosate and either triclopyr or imazapyr has been shown to be more effective than single-product applications.
- » Fall and early spring applications are recommended when the plants are most active; apply prior to flower blooms in the spring to avoid impacting pollinators. Multiple treatments may be required and follow-up monitoring is highly recommended.

Application of herbicides on Crown land must be carried out following a confirmed Pest Management Plan (*Integrated Pest Management Act*) and under the supervision of a certified applicator. [www.env.gov.bc.ca/epd/epdpa/ipmp/index.html](http://www.env.gov.bc.ca/epd/epdpa/ipmp/index.html)



Yellow Archangel; D. Hanna

## ANTS TRANSPORT SEEDS UP TO 70 metres



Yellow Archangel; J. Leake

## C. Mechanical Control

- » The most effective mechanical control method is hand-pulling; however, like many species in the Mint family, nodes on the stolons can have the potential to propagate new stems. Ensure the complete removal of root systems and re-assess in following years to remove any new shoots. Sift through the soil to ensure no stem or root parts remain.
- » Avoid cutting or mowing as it can actually spread the plant even more. If it has been cut, collect all trimmings to reduce the chance of establishing new plants from stem fragments.
- » Bag all parts of this plant and dispose of them at your local landfill.
- » Mulching and covering can smother yellow archangel, but it requires monitoring to make sure no plant parts reaches sunlight. Use thick layers of newspaper or cardboard with good overlap and cover with a thick layer of mulch. Replenish the mulch as needed and make sure stolons do not creep out from underneath.
- » Mechanical treatments may take several years to eliminate yellow archangel depending on the size of the infestation.





## Disposal

**Note:** *Disposal of invasive plants varies by region. Contact your local government for specific information on how to dispose of your invasive plants.*

- » Chemically treated plants can be left on site to compost.
- » Tarp and bag removed plants, plant parts and seeds before transporting to a designated disposal site (e.g. landfill or transfer station).
- » It is recommended that transfer stations provide disposal bins intended solely for invasive plants. This will ensure the plant matter within the container is transported in a sealed unit and properly disposed of at the landfill.
- » Burning and composting are not recommended as extreme temperatures are required.

## Common Names

Yellow weasel snout, Yellow deadnettle

## References/Links

Coast Invasive Species Council website. Yellow Archangel - Priority Invasive Plants, Main. <http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Centaurea%20montana>

Invasive Plants of Southwestern BC website. Yellow archangel 2005. [http://www.shim.bc.ca/invasivespecies/\\_private/yellowarchangel.htm](http://www.shim.bc.ca/invasivespecies/_private/yellowarchangel.htm)

Lamium galeobdolon - Plant Finder - Missouri Botanical Garden. 2013. <http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=d710>

Langley Environmental Partnership Society website. Lamiastrum. <http://www.leps.bc.ca/wp-content/uploads/2014/07/Lamiastrum.pdf>

Washington State Noxious Weed Control Board 2016 Yellow archangel. [http://www.nwcb.wa.gov/pdfs/yellow-archangel-brochure\\_web.pdf](http://www.nwcb.wa.gov/pdfs/yellow-archangel-brochure_web.pdf)



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