



European swallow-wort

Cynanchum rossicum Syn. *Vincetoxicum rossicum* (Kleopov), *Cynanchum medium*, *Vincetoxicum medium* (Aka pale swallow-wort, dog-strangling vine)



Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Overview:

Pale swallow-wort is native to Eastern Europe and was introduced as an ornamental. It is a perennial, non-branching vine with a woody, strongly rhizomatous root system. The plant grows by climbing other vegetation, eventually blocking light to other vegetation and creating tangled thickets.³ Swallow-wort reproduces both by seed and vegetatively. Vines die back to the ground in fall but dead stems may persist twined around supporting vegetation. Lower stem nodes can take root. Flowers can self-pollinate but are also pollinated by insects.¹ It can be confused with *Lonicera* species however swallow-wort has milky latex in the stems.⁵

Pale swallow-worts flower May through June and seed dispersal begins late July.³ Seeds germinate in the spring or fall.¹ Seed number per flower is strongly associated with light conditions. Pale swallow-wort seeds can be poly-embryonic, a condition in which multiple embryos in a single seed result in multiple seedlings from a single seed.³ Seeds are wind dispersed although most fall near the parent plant and seed longevity is

unknown.² A typical stand can produce as many as 54,000 seedlings per m² annually.³

Monarch butterflies, which are obligate pollinators of milkweeds, have been observed to oviposit on pale swallow-wort despite being an unsuitable host for larval development. Swallow-worts can also displace milkweeds.³ Pale swallow-wort displaces native vegetation as well as negatively impacting Christmas tree farms, horticulture nurseries and orchards, and some perennial agriculture crops.³

Pale swallow-wort possesses allelopathic abilities - the roots and fruits contain at least two compounds which have anti-fungal and anti-feedant activities. Decaying leaves release leachates which negatively affect the germination of other species. These compounds may also play a role in altering soil microbial activity and mycorrhizal communities.³

Habitat:

Pale swallow-worts tolerate a wide range of moisture regimes and soil pH. It can grow

in calcareous soils, shallow soils over limestone bedrock, sandy loams, deep loams, rocky and clay loam, talus, gravelly shores, and tolerate seasonal flooding.¹ It grows in all light conditions from full sun to densely shaded, although shaded plants may not produce seed until disturbance opens the canopy.²

Identification:

Stems: Are green, un-branching vines containing a milky sap and growing 0.6-2 m in length although in shade can grow three times that length.³ Vines may be erect or twining depending on available support.¹ Stems are pubescent in longitudinal bands.³

Leaves: Are opposite, dark green, oval to elliptical and shiny with acute tips and entire margins with occasional pubescence. Leaves are 7-12 cm x 5-7. cm and borne on short petioles.³

Flowers: Clusters of 6-10 flowers are borne on short stems from the leaf axils. Flowers are star-shaped, five lobed, the sepals light pink, reddish brown, or maroon, and about 5-7 mm in diameter.³ A fleshy corona is 5-lobed and slightly darker than the co-

continued next page

European swallow-wort (Continued)

rolla.³ The fruits are slender follicles 4-7 cm long, often borne in pairs which split open lengthwise to release the seeds. Seeds are 4-6.5 x 2.4-3.1 mm in area¹ with a membranous marginal wing and an apical tuft of hairs.³

Prevention:

Pale swallow-wort requires some disturbance to establish, whether natural or man-made. Native species which provide early season competition can potentially exclude swallow-wort. Open areas downwind of infestations should be a focus of early detection².

Control:

Grazing: Horses have been observed to avoid it¹ and grazing by livestock would only remove above ground portions followed by re-sprouting². Invasive plants should never be considered as forage.

Mechanical: Digging would only be practical for small populations or isolated plants. Care must be taken to remove all vines and root material.¹ Hand pulling is ineffective for control as stems break at the root crown and then re-sprouting occurs - the same occurs for mowing. Mowing and hand pulling can prevent seed production. Any type of cultivation would only increase patch size.²

Chemical: Currently no selective herbicides are registered for use on pale swallow-wort. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: In 2006, a team from CABI's centre in Switzerland and the University of Rhode Island, USA started surveying potential biological control agents for swallow-worts. Five potential insect biological control agents were prioritized.⁴



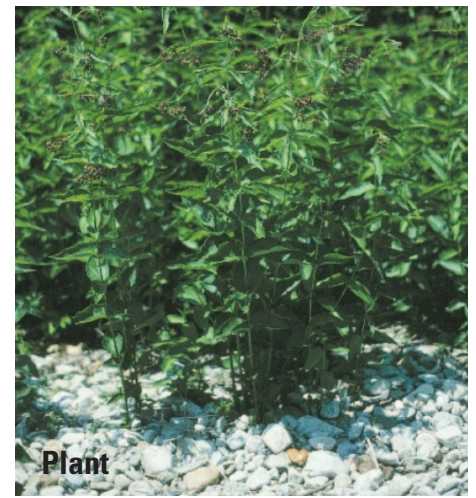
LESLIE J. MEHRHOFF, UNIVERSITY OF CONNECTICUT, BUGWOOD.ORG



LESLIE J. MEHRHOFF, UNIVERSITY OF CONNECTICUT, BUGWOOD.ORG



LESLIE J. MEHRHOFF, UNIVERSITY OF CONNECTICUT, BUGWOOD.ORG



LESLIE J. MEHRHOFF, UNIVERSITY OF CONNECTICUT, BUGWOOD.ORG



LESLIE J. MEHRHOFF, UNIVERSITY OF CONNECTICUT, BUGWOOD.ORG



LESLIE J. MEHRHOFF, UNIVERSITY OF CONNECTICUT, BUGWOOD.ORG

REFERENCES

- 1 Black Swallow-wort > Fire effects Information System. www.fs.fed.us/database/feis/plants/vine/cynspp/all.html
- 2 Cynanchum louiseae. BugwoodWiki. www.wiki.bugwood.org/Cynanchum_louiseae
- 3 Bulletin 2523, Black Swallowwort. Maine Natural Areas Program and University of Maine Cooperative Extension. www.umaine.edu/publications/2325e
- 4 Cynanchum rossicum. Global Invasive Species Database. www.issg.org/database