
Life Cycle

- European Elm Scale produces one generation a year.
- Males spend the winter on the tree protected in a white felty cocoon that resembles a grain of rice. They will pupate from February to March and emerge from March to mid-May.
- Females overwinter inside cracks in twigs and branches or along the base of buds on the tree. Mating occurs from April to May after female nymphs emerge from hibernation.
- Females are also able to reproduce asexually, which does not require or produce any males.
- Females mature into scales from May to August and settle on large branches and limbs where they lay their eggs. The eggs hatch into nymphs within a few hours of being laid.
- The nymphs, also known as crawlers, are bright yellow and migrate to the veins on the underside of leaves where they spend the summer feeding.
- In the fall, the immature female nymphs return to a limb or the truck of the tree where they will spend the winter hibernating.



European elm scale nymphs along leaf veins.
(Photo: Whitney Cranshaw, Colorado State University, Bugwood.org)



Adult female European elm scale on an *Ulmus americana* branch.
(Photo: Joseph Berger, Bugwood.org)



European Elm Scale

Gossyparia spuria

European Elm Scale (EES) is a small soft scale insect that attacks all species of elm. EES is a sucking insect that inserts its tiny, straw like mouthparts into bark or leaves. They appear as little bumps on the undersides of branches and leaves in early summer. EES has a distinct white waxy fringe on their shells that protect them while they feed.



European elm scale on an *Ulmus americana* twig.
(Photo: Joseph Berger, Bugwood.org)

Symptoms

- Usually, EES is first recognized by the sticky honeydew secretions that it produces. These secretions fall from the tree most abundantly in June and July.
- You may notice sooty black mold on branches and the tree trunk — this mold grows on the honeydew.
- The honeydew also attracts flies, ants and other insects that may appear on the leaves and limbs.
- The tree's leaves may discolour and turn yellow, followed by premature leaf dropping.
- Over time, infested trees may exhibit thinning of its canopy.
- You may see insects at different stages of development on the tree. Female individuals are oval, reddish/purple in colour and are about 1/16-inch-long. Adult males are tiny white/yellow coloured insects with a single pair of wings and long antennae. They are rarely seen on the bark or leaves.

Prevention

- Good plant care is the best form of prevention. Keep your trees and shrubs healthy by providing sufficient water to prevent drought stress. This improves their ability to resist damage from diseases and pests. Monthly deep watering is recommended as needed.
- Plant disease resistant elms.
- Prune out dead and dying branches.
- The law in Calgary requires that all elm trees be pruned only between October 1 and March 31 each year. While this restriction is directly related to the prevention of Dutch Elm disease, it will apply to the good care practices for EES.

Resources

<https://www.calgary.ca/CSPS/Parks/Pages/Planning-and-Operations/Pest-Management/Elm-scale.aspx>

<https://www.ipmimages.org/browse/detail.cfm?imgnum=1326115>

<https://www.ipmimages.org/browse/detail.cfm?imgnum=5402460>

<https://www.ipmimages.org/browse/detail.cfm?imgnum=5402464>

<https://utahpests.usu.edu/ipm/ornamental-pest-guide/arthropods/scales/european-elm-scale>

Control Measures

- When detected, hose the tree down and physically remove the insects by scraping them off with your fingernail or a cotton swab dipped in alcohol.
- Apply horticultural oil to smother the insects. If applying the oil in the spring, do so just after bud-break. If applying in the fall, do so just prior to leaf drop.
- Foliar sprays, such as insecticidal soap, can be used to kill crawlers feeding on the undersides of leaves during the summer. Apply it every three days over a two-week period.
- Systemic botanical insecticides can be applied by injection into infected trees. This service can be provided by a professional tree service.