

There are two species of bark beetles that feed and breed on elm trees, the smaller European elm bark beetle (*Scolytus multistratus*), and the native elm bark beetle (*Hylurgopinus rufipes*). Both species are very important pests of elms because of their ability to transmit *Dutch elm disease* (DED).



Native elm bark beetle,
2-3mm, brownish black, rough body surface



European elm bark beetle,
2.5-3.5mm, reddish brown, shiny

Adult beetles emerge from under the bark of elm trees in early spring and start to feed on the bark of twigs, usually at the crotches. They carry the DED fungus from infected to healthy trees. After several weeks of feeding, adult females bore into the bark of unhealthy or dead elm trees. They chew through the inner bark, forming a gallery that is about 5-7cm long. Eggs will be laid along these galleries. The larvae hatch from the eggs and feed on the inner bark, carving tunnels perpendicular to the egg gallery. The fungus spreads through the tunnels to the water conducting system of the tree. Mature larvae pupate in the bark. In spring, the insects emerge from the bark as adult beetles. In Canada there is typically one generation per year but often in the southern parts of the country there are two.



The egg laying gallery of native elm bark beetle is across the wood grain



The egg laying gallery of European bark beetle is parallel to wood grain

Host and Damage

Elm bark beetles are host specific; they only feed and breed on elm trees.

The elm bark beetles do not cause serious direct physical damage to the trees. Their importance as a pest is in their ability to transmit DED.

Specific Management Practices for Control of the Elm bark beetles:

- Management practices for control of elm bark beetles are linked to DED management.
- The most effective control method is to destroy or reduce the beetle breeding habitat. To achieve that, remove dead or dying elm trees immediately and de-bark or destroy the wood.
- Do not store or transport elm firewood if it is not previously de-barked.



Elm bark beetle monitoring trap

General Management Practices to Improve Plant Health:

- Water your trees during dry spells. Infrequent, but deep soaking preferably during the early morning hours is recommended. Water absorbing roots are located in the upper 25 cm of the soil and extend outward well beyond the canopy dripline.
- Place organic mulch, (e.g. wood chips), or living mulch, (e.g. ground cover plants) around tree bases to keep the soil moist for longer periods and encourage healthier roots.
- Avoid unnecessary excavating, grade changes, soil compaction, root cutting or hard surfacing around trees. These activities destroy vital roots, which may lead to the decline or death of trees.
- Refrain from using salt or herbicides around trees.

Forest Health Care is a holistic approach to tree care that focuses on improving the health of trees in an urban environment. Our objective is a healthy, sustainable urban forest. Trees in urban forests are often stressed by compacted soil, drought, poor planting and pruning techniques, air pollution, road salt, damage from construction and much more. Trees planted in the right sites and properly maintained are less likely to suffer and are more resistant to pest problems.

Pest problems are managed using a decision making process that considers the following:

- Identification of the host and the pest.
- Monitoring of the host and the pest.
- Selection of the appropriate management strategy.
- Evaluation of the management plan.

Our focus is on pest management programs that are environmentally, socially and economically sound.