

INVESTIGATION OF SUBTERRANEAN TERMITE ACTIVITY
IN TREES IN TORONTO, ONTARIO

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Trees located in areas infested with the Eastern subterranean termite (Reticulitermes flavipes) often show signs of termite activity in the form of shelter tubings visible on the bark.

This activity raises several questions such as:

- Do termites favour certain tree species over others?
- Is termite activity related to tree size or physical condition?
- Do termites form nests or colonies in trees?
- Do termites cause significant structural damage to trees?
- Are they present in sufficient quantities and caste diversity to permit development of new colonies if infested trees are cut down and removed to a different site?
- Do conventional treating methods control termite activity in trees?

Boulevard and park trees in termite infested areas of Metro Toronto were inspected for termite activity and classified with respect to species, diameter, and physical condition. In total, about 17,800 trees representing more than 20 species were inspected. Two trees with heavy termite activity were cut down and dissected to evaluate the type and extent of termite damage and the numbers and caste types of termites present in or on infested trees.

About 700 of the trees inspected had termites. Only 10 of these had definite termite nests, usually located in the decaying heartwood, near the ground. Termites were practically never found on trees in parks, ravines or other open areas away from buildings.

Certain species were more likely to be infested, most notably silver maple, Norway maple and horsechestnut. Other species such as elm species, tree of heaven, catalpa and softwood species rarely had termite activity. Generally termites were more common in large diameter trees with decaying wounds.

The dissected trees contained many termites in the bark and in dead branch stubs, but generally, little structural damage to the trees was observed. The termites observed, included nymphs as well as workers.

Under certain conditions, both of these caste types can develop into secondary reproductives. This suggests that the movement of infested trees from one area of the city to another may be contributing to the spread and dispersal of termites in Toronto.

Soil treatment around the infested trees did not prevent termite activity. Combined trunk spraying and soil treatment with aldrin or chlordane resulted in protection of trees for at least one year.

Further studies on the interaction of termites with trees are required to determine if the observations on tree specificity and lack of infestation of park trees are significant. The city should develop effective means of eradicating termites from trees and establish procedures for disposing of trees and branches removed from termite active areas to reduce the spread of termites by this means.