

Biology, Life Cycle, Host Plants, and Impacts to Trees

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Basic Biology

L. dispar is an **eruptive** species,
on occasion it has large
regional outbreaks

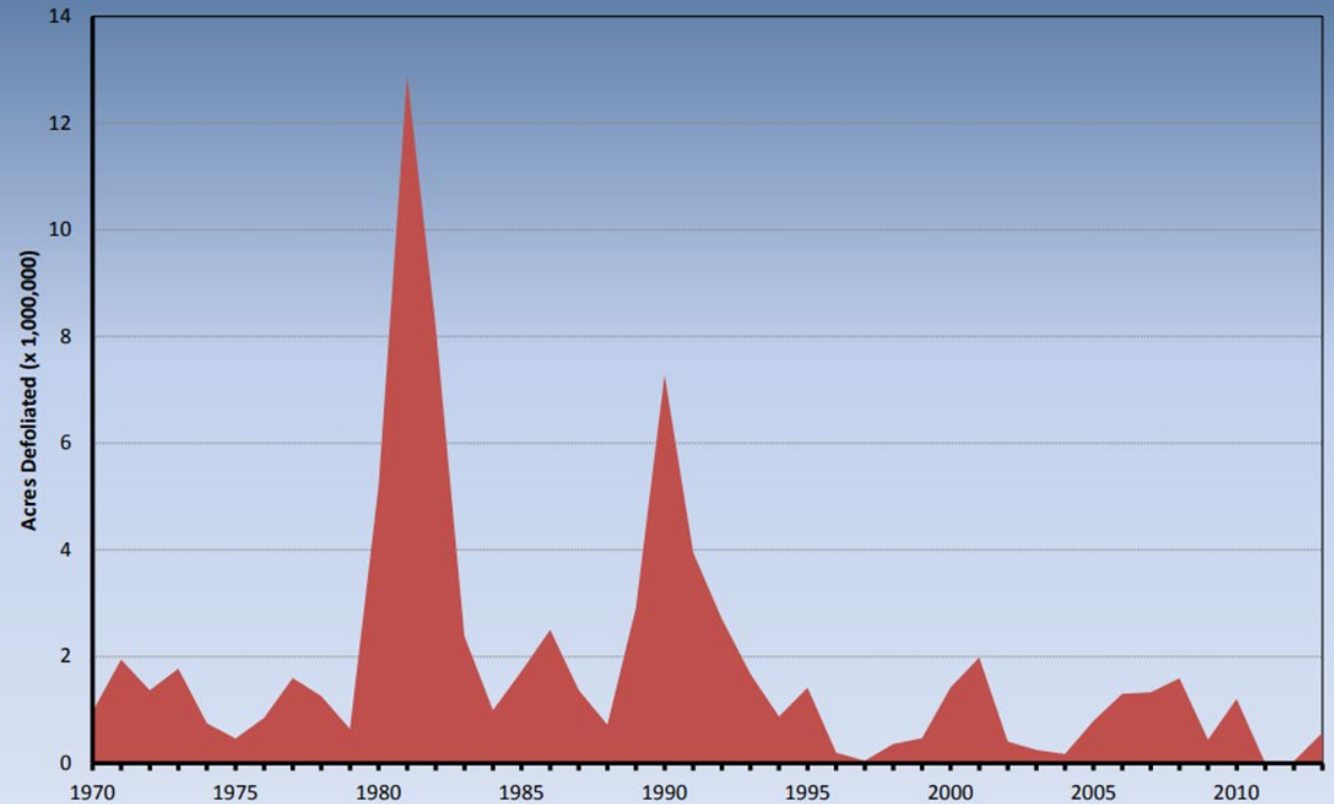
Outbreaks generally last 2-3
years in any one area

During outbreaks, many
millions of caterpillars can be
produced that eat the leaves
of trees and shrubs


When not at outbreak levels, it
can be hard to find caterpillars

Gypsy Moth Defoliation, 1970 to 2013

81.0 Million Cumulative Acres



Source: US Forest Service, Northeastern Area State and Private Forestry, Gypsy Moth Digest



Virus killed caterpillar



Fungus killed caterpillar

Population decline - the end of an outbreak

- Natural enemies, especially pathogens begin to kill most of the caterpillars. Key diseases include a virus and a fungal disease.



Mid-summer



Fall & Winter



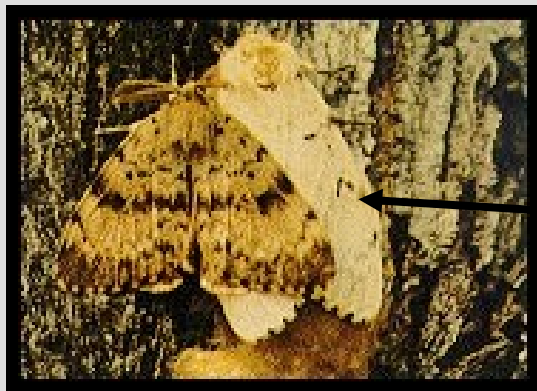
Early spring



Late spring
Early summer



Life Cycle



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The Caterpillar is
the damaging
stage – eating and
clipping leaves
and needles



Food Preference – What do they eat?

This is an insect that has a wide host range – it can feed on the leaves of many trees and shrubs (hundreds of tree and shrub species).

But, it has definite favorites and outbreaks are dependent on the most favored host trees.

Older, larger caterpillars are less picky, they eat a wider variety of leaves or needles than young, small caterpillars

There are some trees and shrubs that it will not eat.

Food Preference – What do they like to eat

Preferred <i>Eaten by all caterpillar stages</i>	Oaks, Trembling and Bigtooth Aspen, Paper and River Birch, Basswood (Lindens), Apple and Crabapple, Tamarack, Alders, Willows, Mountain ash
Less Preferred <i>Eaten only by older caterpillars</i>	Cottonwood, American Beech, Hickories, Hackberry, White Pine and other Pines, Spruces, Hemlock, Sugar and Red Maples, Black Walnut, Black Cherry and other Cherries, Elms
Avoided <i>Rarely eaten</i>	Arborvitae (white cedar), Junipers, Silver Maple, Kentucky <u>coffeetree</u> , black locust and <u>Honeylocust</u> , Sycamore, <u>Tuliptree</u> , Dogwoods, Firs, Baldcypress, Mulberry

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Red Oaks



Northern
pin oak



Northern
red oak



Texas red oak

White Oaks



Bur oak



White oak



5550914

Karla selp, bugwood

Oaks are a heavily preferred host tree, the young caterpillars do very well feeding on oak leaves.



Aspens are also heavily preferred host trees, the young caterpillars do very well feeding on aspen leaves.



Paul Wrey

Trembling or quaking aspen

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Impacts to Trees

- Healthy broadleaf trees can withstand 1 or 2 years of severe defoliation and will generally refoliate by mid-summer.
- Stressed (weakened) trees may die following severe defoliation, especially if it occurs during a drought period or if defoliation occurs for repeated years.
- You may see crown dieback in broadleaf trees – this does not mean the tree will die.
- Conifers are less tolerant of defoliation and can die following a single year of complete defoliation