

# Brown Tail Moth health effects



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# Brown-tail moth history

- Accidentally introduced into Somerville, Massachusetts from Europe in 1897.
- By 1913, the insect had spread to the New England states, New Brunswick and Nova Scotia.
- Population dropped later, unclear why, until there was just a residual population limited to Cape Cod and a few islands off the Maine coast in Casco Bay.
- Occasional outbreaks occurred on the mainland during twentieth century until the 1990's when brown-tail became a perennial problem along the southern Maine coast

# The offending hairs of the caterpillar

- Tiny (0.15 mm) poisonous urticarial hairs called *setae*
- Hairs (some short, some long) are sharp pointed, barbed, and hollow.
- A toxin is produced by poison glands in the caterpillar which floods the hairs. When the hairs penetrate the skin, they spill their contents which can cause a rash.
- Analysis of the irritant toxin includes histamine and a number of enzymes.
- Skin irritation is also due to a mechanical effect when the barbed hairs become embedded in the skin (like fiberglass).

Sources:

**MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY** -Maine Forest Service - Forest Health and Monitoring Division [http://www.maine.gov/dacf/mfs/forest\\_health/insects/browntail\\_moth\\_precautions.htm](http://www.maine.gov/dacf/mfs/forest_health/insects/browntail_moth_precautions.htm)

<http://facultyweb.cortland.edu/fitzgerald/Browntail.html>

# How?

- Hairs are easily detached from the caterpillar and become airborne.
- Rash may be from direct contact with the caterpillar, webbings or contact with airborne hairs.
- Hairs become airborne from a living or a dead caterpillar, or from the cast skins when the caterpillar molts.
- Hairs can remain toxic for several years!

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# Toxicity

- **Erucism** – caused by pupal and larval stages of moths – also called caterpillar dermatitis, characterized by localized rashes usually from direct contact or airborne hairs.
- **Lepidopterism** - illness/rash from adult stages of moths, caterpillar, cocoon, or moth – may see headache, eye irritation, nausea, bronchospasms, wheezing and occasional shortness of breath as well as rash

# Symptoms

- Symptoms can vary from person to person
- May initially feel a burning sensation at the contact site
- Rash (dermatitis) may consist of: hives (urticaria), itching (pruritus), erythema (redness), swelling (edema) and pain
- Eye contact can cause irritation and conjunctivitis
- Onset can be minutes to hours, can last hours to days



Source: <https://en.wikipedia.org/wiki/Brown-tail>

# Take Precautions!

## Risky months – June through August

- Toxin is extremely stable and can remain a hazard for years
- Try to avoid places heavily infested by caterpillars as much as possible
- If you like to camp on or near islands, check first to see if the area has brown tail moth infestation.
- If you are opening up and cleaning a cottage or camp that has been closed all winter - the hairs can settle and still be toxic! ***Before vacuuming or dusting, wet mopping and cleaning is advised.***

Source:

**MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY** - Maine Forest Service - Forest Health and Monitoring Division @ [http://www.maine.gov/dacf/mfs/forest\\_health/insects/browntail\\_moth\\_precautions.htm](http://www.maine.gov/dacf/mfs/forest_health/insects/browntail_moth_precautions.htm)



# More good advice to heed.....

- Dry laundry inside during June and July - hairs can stick to the clothing outdoors!
- Wear respirator, goggles and coveralls tightly closed at neck, wrists and ankles when doing yard work or removing webbings. These activities can stir up the little hairs.
- Polyester clothing is best, the hairs stick to cotton.
- The hairs can stick to the cotton respiratory masks.
- Try to perform any of these tasks on damp days or you can wet down the material with water to help keep hairs from becoming airborne.
- Use caution when cleaning the caterpillar debris. Remember, the toxin can remain active for several years!

# If you think you came in contact with brown-tail moth.....

- Immediately change clothes after any activity that might involve contact with brown-tail moth hairs.
- Take a cool shower, wash thoroughly with soap and water for 10-15 minutes.
- Wash the clothing separately from other clothing as soon as possible in hot water. Dry in the dryer as usual.

# Concerns

- Caterpillars can be ingested by pets and children! It can cause irritation in the mouth and throat, drooling, and tongue swelling.
- The rash can be localized (in one area) and can last for a few hours up to several days or even weeks.
- The rash is not like poison ivy, it does not spread, but is more localized where the contact was.
- In sensitive individuals, the rash can be severe and last for several weeks
- If the hairs are inhaled, it can cause a cough and sometimes shortness of breath.
- If someone already has asthma or other respiratory illnesses, inhaling the hairs can cause more irritation and aggravate existing symptoms.
- Respiratory distress from inhaling the hairs has been reported (11% of the population in one health survey) and can be serious.

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@[http://www.maine.gov/dacf/mfs/forest\\_health/insects/browntail\\_moth\\_precautions.htm](http://www.maine.gov/dacf/mfs/forest_health/insects/browntail_moth_precautions.htm)  
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# First Aid for Brown Tail Moth Exposure

- Skin contact: Wash with soap and water for at least 15 minutes. Clean gently to avoid skin breakdown which can lead to more irritation. See a doctor if your rash is not getting better with OTC (over the counter) treatments.
- If hairs get in the eye: remove contact lenses, flush with room temperature water for 15 minutes. If there are still symptoms 15-20 min after flushing, see a doctor.
- If there are visible hairs, try to remove with scotch tape or duct tape.
- If someone is having any respiratory symptoms, such as coughing, chest congestion, difficulty breathing, they need to see their Doctor right away.

# Treatment

- There is no antidote.
- There are no specific lab tests needed for evaluation and treatment.
- Local pain and rashes can be treated with over the counter medications: antihistamines, topical corticosteroids, and pain relievers.
- For respiratory irritation, use your own typical treatments (inhalers, etc.) but talk to your Doctor as soon as possible if symptoms do not improve or worsen.

# Anecdotal Treatment Suggestions

- Can use poison ivy wipes before possible exposure.
- Calamine lotion, antihistamine sprays, tea tree oil, jewelweed may help.
- Equal parts of Aspercreme and Sarna (talk to your pharmacist)
- ½ tube Hydrocortisone cream, ½ tube antihistamine and bottle of witch hazel mixture
- Four local pharmacies have a mixture that has had good success – contains cortisone 10, sarna, tea tree oil and benadryl.
  - Needs a Doctor's RX or talk to your pharmacist.
  - Costs about \$43 dollars.
- Hemorrhoid wipes that contain witch hazel

***These suggestions have been gathered from those who have suffered from the rashes and what gave them some relief – not to be taken as treatment recommendations.***

***Please talk to your Doctor before using any treatments!***

# Northern New England Poison Center

- Staffed with specially trained RNs, pharmacists and physicians
- Available 24/7
- Call 1-800-222-1222
- Visit [www.nnepc.org](http://www.nnepc.org)
- Chat and Text available
- [miller@mmc.org](mailto:miller@mmc.org)

***Program your phone with 1-800-222-1222!***

# Resources

- **Maine Department of Agriculture, Conservation and Forestry**  
- Maine Forest Service - Forest Health and Monitoring Division
- @[http://www.maine.gov/dacf/mfs/forest\\_health/insects/browntail\\_moth\\_precautions.htm](http://www.maine.gov/dacf/mfs/forest_health/insects/browntail_moth_precautions.htm)
- [http://www.maine.gov/dacf/mfs/forest\\_health/insects/browntail\\_moth.htm](http://www.maine.gov/dacf/mfs/forest_health/insects/browntail_moth.htm)
- <http://www.pressherald.com/2015/07/23/maine-officials-warn-of-infestations-of-noxious-browntail-moth/>
- <http://facultyweb.cortland.edu/fitzgerald/Browntail.html>
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