



Special Points of Interest

Pests and Pesticides in Child-serving Facilities: An IPM Newsletter

Head Lice Spray Cans and Cleaners Found in Unlocked, Floor Cabinets in Classrooms for Young Children, Again! It's Time to Remove Stored Insecticides from Classrooms!

Karen M. Vail

Any idea, plan, or purpose may be placed in the mind through repetition of thought. N. Hill

I'm hoping that with repetition I will finally get my message through to school personnel and those that work in schools. We continue to find head lice premise spray cans in kindergarten or pre-K classrooms, and sometimes they, along with cleaners, are accessible to children in unlocked floor cabinets. This is wrong on many levels. Pesticides are dangerous in the hands of children. This violates the label which indicates to keep out of the reach of children. In addition, it is against the law for anyone to apply a pesticide in a school that is not under the supervision of a licensed operator (TCA 62-21-124). And, premise sprays are not needed to control head lice.



Flying and Crawling Insect Killer Premise Spray can in an unlocked, floor cabinet of a Pre-K classroom.

In the United States, approximately 10 – 12 million people, mostly children, are infested annually with head lice, *Pediculus humanus capitis* DeGeer. The first indication of an infestation is the itching and scratching caused by these bloodsucking insects. Examination of the hair and scalp will usually reveal the white or grayish crawling forms (about the size of a sesame seed) and yellowish-white eggs (nits) attached to the hair shafts close to the scalp.



Head louse adult. Photo: University of Florida

Head lice are small (1/8 inch), wingless insects with sucking mouthparts, and legs modified for grasping hairs. These lice prefer to cling to head hair with their claw-like legs. Head lice do not normally live in rugs, carpets or school buses. Lice do not have jumping legs or wings, so they cannot jump or fly from person to person. The 1/10 inch eggs (or nits) of head lice are oval, white and cylinder-like and are usually glued to the head hairs near the scalp. Near the ears and back of the head are common places for females to attach the eggs. These nits are sometimes mistaken for dandruff or residues of shampoo but will not wash off or be flicked off with a finger. Red bite marks or scratch marks are often seen on the scalp or neck. Typically, eggs hatch within seven to 10 days. Newly hatched lice must feed within 24 hours or die.

“Do not use insecticidal premise sprays or fogs; they are not necessary to control head lice and can be toxic if inhaled or absorbed through the skin.”

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The most common way head lice are spread is by direct head-to-head (hair-to-hair) contact. Much less often they are spread by sharing clothing or personal possessions onto which lice have crawled or shed hairs with nits may have fallen. There's a very slim chance of being infested by a louse that has fallen onto a carpet or furniture. Head lice just don't survive very long off a host, often less than 1-2 days if they fall off a person and don't have access to food (your blood). Nits won't hatch and usually die within a week or sooner if deprived the temperatures and humidity found close to the scalp.

Heading Off Head Lice

- Teach children to avoid head-to-head contact during play and other activities at home, school, and elsewhere (sports activities, playgrounds, slumber parties, and camps).
- Teach children not to share clothing and supplies, such as hats, scarves, helmets, sports uniforms, towels, combs, brushes, bandanas, hair ties, and headphones. Lice can be manually removed from headphones with a cleaning wipe. Discourage group smartphone "selfies" when lice have been found.
- Disinfest combs and brushes used by a person with head lice by soaking them in hot water (at least 130°F) for 5–10 minutes.
- Do not lie on beds, couches, pillows, carpets, or stuffed animals that have recently been in contact with a person with head lice.
- Clean items that have been in contact with the head of a person with lice in the 48 hours before treatment. Machine wash and dry clothing, bed linens, and other items using hot water (130°F) and a high heat drying cycle. Clothing and items that are not washable can be dry-cleaned or sealed in a plastic bag and stored for two weeks.
- Vacuum the floor and furniture, particularly where the person with lice sat or lay. Head lice survive less than one or two days if they fall off the scalp and cannot feed.
- **Do not use insecticidal premise sprays or fogs; they are not necessary to control head lice and can be toxic if inhaled or absorbed through the skin.**
- After finishing treatment with lice medication, check everyone in your family for lice after one week. If live lice are found, contact your health care professional.

See the CDC website for frequently asked questions about lice and management <https://www.cdc.gov/parasites/lice/head/treatment.html>

Teachers NOT Allowed to Apply Pesticides in Schools

Tennessee Code Annotated 62-21-124. Pesticides in buildings used for food preparation and service, or lodging states:

(a) Whether or not engaged in the business of applying pesticides, a person may not apply a pesticide within any of the following buildings, except under the direct supervision of a person licensed to apply pesticides in accordance of this chapter:

- (1) any building used for the preparation or serving of food;
- (2) any building used for the temporary or permanent lodging of others;
- (3) any building used primarily for educational purposes, except those buildings used primarily for religious instruction or for providing education to not more than ten (10) persons; or



Thus, nurses, computer lab supervisors, teachers, custodians, maintenance and other school personnel are NOT allowed to apply pesticides in a school unless the school has someone licensed for this purpose. I would expect most school personnel have not been made aware of this Tennessee law. (By the way, violation of this law could result in a class A misdemeanor. Most likely, the Tennessee Department of Agriculture would warn the violator, but if repeated occurrences were to occur after a warning, a judge would be determining the discipline.)

In schools, we want to prevent the school occupants from being exposed to pesticides and in the case of head lice, it just isn't necessary. Some pesticide labels will actually state that pesticides cannot be applied while children are present. Some of the premise lice spray formulations are for home use only. In addition, the application of some products that have a strong odor (even a strong pleasant odor) and are low in toxicity, could trigger an asthma attack if done when children or other occupants are present.

I hope I've clearly made my case to take insecticidal spray cans out of the classroom.

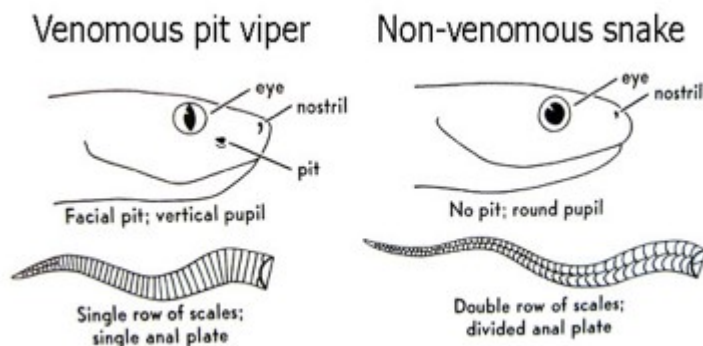
Modified from <http://schoolipm.utk.edu/documents/newsletters/April2017.pdf> and <https://www.cdc.gov/>

Non-venomous Snakes and Reducing Conducive Conditions around Schools

Pat Barnwell and Karen Vail

We've had a request to rerun our article about snakes, so here it is with minor modifications. If you have experienced snakes in your schools, let us know about it. Send an image and description of the snake and the area where the snake was found to kvail@utk.edu. Any additional information about conditions conducive to the snake's presence would be appreciated.

Snakes are valuable predators that keep the populations of small rodents, slugs, and insects, among other creatures, in check. Occasionally snakes will wander into schools. We have never had a report of a venomous snake entering a school. Still, it is good to know how to distinguish venomous from non-venomous snakes. The **four venomous snakes found in Tennessee are pit vipers** (<http://www.tnwatchablewildlife.org/reptiles.cfm>) and include **copperhead** (highland moccasin), **cottonmouth** (water moccasin), **timber rattlesnake** and **pygmy rattlesnake**. The pygmy rattlesnake and cottonmouth (water moccasin) are only found in the western half of the state. Pit vipers have elliptical pupils and a pit or opening on the side of the head midway between the eye and the nostril. These snakes also have a single row of scales on the underside of the tail except at the very tip where there may be two rows.



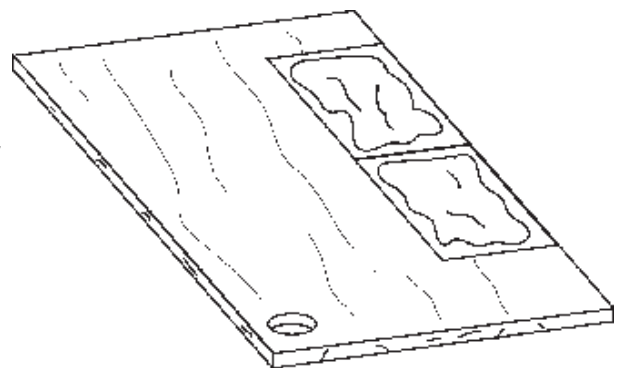
Comparison of venomous and non-venomous snakes. <http://buckeyeherps.blogspot.com/2011/09/ohio-snake-identification-venomous-or.html>



A non-venomous gray rat snake lacks the facial pit between the nostril and eye. Wendy VanDyk Evans, Bugwood.org

Snakes prefer damp, cool, dark places. Heavily mulched landscapes, dense shrubbery surrounding a structure, as well as materials piled against a structure are attractive habitats for some snakes. Ridding a site of rodents and rodent burrows renders a site less inviting to snakes. Keep vegetation around the structure closely mowed. Try to modify the habitat by removing shelter and reduce food sources by controlling rodents.

Snakes can enter through any gap over ¼". Vents can be screened with ¼" hardware cloth and gaps filled with mortar or sealant to keep snakes out. Trim tree branches back four feet from the structure to prevent tree climbers such as black racers from gaining access. Avoid leaving doors propped open.



A glue trap to catch snakes can be made by attaching several rodent glue traps to a wooden board. Vail et al. 2006

Indoor glue boards will trap small snakes that can be released from the boards by applying vegetable oil. Larger traps can be made by attaching several glue boards on a piece of plywood. Drill a hole in the plywood so that it can be removed with a hook. Glue traps should be kept out of the reach of children. Place a pile of damp towels covered with a dry towel in places where snakes have been seen. After a couple of weeks, the pile can be removed with a scoop shovel in the middle of the day when the snakes are likely to be present.

Since non-venomous snakes are harmless there is no reason to kill them. Most schools contract pest control, so ask your pest management professional to remove the snake and provide suggestions on how to prevent snake entry in the future. Otherwise, someone else knowledgeable and fearless can capture, remove and release them into the surrounding woodlands, fields, pastures, or along water courses where they can perform their ecological services.

References:

Byford, James. Nonpoisonous Snakes. <http://icwdm.org/Handbook/reptiles/repf15.pdf>

Vail, K., G. Burgess, R. Gerhardt and C. Harper. 2006. General Rodent and Pest Control Licensing Manual. UT Extension. pp. 127.



Once it is determined that the snake is non-venomous, don't overreact to a snake in a classroom. Students learn behaviors from the adults in their life, especially teachers. This child has a natural curiosity of snakes because her parents do not react to snakes in a fearful manner.



Copperhead. [J.D. Willson](#)



Cottonmouth. [J.D. Willson](#)



Pygmy rattlesnake. [J.D. Willson](#)



Timber rattlesnake. [J.D. Willson](#)

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For more information about IPM in Tennessee schools and other facilities, or to view past issues of *Pests and Pesticides in Child-serving Facilities*, please visit <http://schoolipm.utk.edu>

NATIONAL IPM INFORMATION

eXtension's Pest Management In and Around Structures: Urban Integrated Pest Management http://www.extension.org/urban_integrated_pest_management

National School IPM
schoolipm.ifas.ufl.edu/

IPM in Schools Texas
<http://schoolipm.tamu.edu/>

IPM Institute of North America
www.ipminstitute.org/

School IPM PMSP—all schools IPM by 2020 <https://ipminstitute.org/projects/school-ipm-2020/>

National Pest Management Association IPM
www.whatisipm.org/

EPA schools
<http://www2.epa.gov/managing-pests-schools>

For further information about the IPM program at your school or in your county, contact your county Extension Agent or the school IPM Coordinator. For county agent contact information, please visit <https://extension.tennessee.edu/Pages/Office-Locations.aspx>

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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