



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

Remove Vegetation Next to the Foundation to Reduce Clover Mite Numbers Indoors

Karen Vail

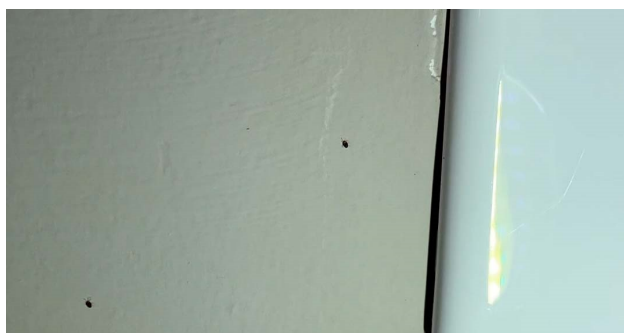


Figure 1. Clover mites near a kitchen wall outlet. Credit: email submission.

After a lengthy discussion the last week in March with a homeowner about how clover mites, *Bryobia praetiosa* Koch, persisted in her house for over a month, I decided clover mites would be a subject of this newsletter. In almost all the indoor clover mite cases brought to my attention, grass or other vegetation was in

direct contact with the structure’s foundation and this was no exception.

Clover mites feed on grasses and many species of plants and may mistakenly enter homes. This tends to happen when vegetation is against the foundation. Movement indoors (Figure 1) occurs most frequently in the spring, but may also occur in the fall. They may also enter when their microenvironment becomes too wet or hot. In general, these mites are not active in



Figure 2. Note the long first pair of legs extending forward and resembling antennae in this adult clover mite.

extreme summer heat and will die when exposed to temperatures above 102.2 degrees F. Most clover mite activity occurs in the cool spring and fall. The ideal temperature for clover mite development is about 69 degrees F.

Special Points of Interest

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B. praetiosa is easily distinguished from other mites by the long first pair of legs that extend forward in front of the mite and, at a glance, resemble antennae (Figure 2). The sparse setae (hairs) are spatulate, that is, wider at the top and then narrowing towards the base. The oval-shaped adult mite is less than 1 mm (0.75 – 0.85 mm)



Figure 3. Lush grass being removed 2 ft. from the foundation. Credit: email submission.

long and is reddish-brown to dark green. Clover mites are parthenogenic - females lay eggs without mating with a male. All clover mites are females. The red eggs are laid, singularly or in clumps, in spring and fall in areas where they will be protected from moisture and temperature extremes, often in sun-exposed locations. When the six-legged, flat, nearly circular larvae hatch in spring and fall, they are red due to their body fluids. Two eight-legged nymphal instars occur before they molt into the adult stage. When eggs hatch on or near the foundation wall, larvae can find their way indoors. Most activity is noted on sun-exposed walls. If crushed, these mites leave red streaking on fabrics and other surfaces. It's best to remove clover mites found inside with a vacuum to prevent crushing and staining. When finished vacuuming, the bag should be removed, placed in a sealable plastic bag, and put in an outside garbage can.

Clover mites build large populations when feeding on heavily fertilized grass and other plants. In the case described above, the lawn had been over fertilized. Avoid over-fertilizing to reduce mite build up. With this slab-on-ground foundation, the siding was close to

the soil and allowed the prolific grass to grow underneath it. It's quite possible eggs had been laid under the siding or in the gap between the ground and foundation, making it easier for the mites to find their way indoors.

The obvious solution to this case was to pull back all vegetation 1.5 to 2 feet from the foundation's base (Figure 3) which would discourage mite activity in this area and make it easier to treat properly with an insecticide. Others suggest planting species that clover mites don't readily feed on, such as zinnia, yew, salvia, rose, petunia, marigold, juniper, geranium, and chrysanthemum. As clients are hesitant to keep a bare zone next to the foundation because of the splashing/staining of our lovely clay soils on the foundation walls, some opt to place an inorganic mulch, stone or rock in this area (Figure 4).

It makes sense to seal cracks and apparent gaps in the foundation walls, around pipe penetrations, doors and



Figure 4. Placing rock or other inorganic mulch next to the foundation base should reduce the risk of clover mites wandering indoors. Credit: email submission.

windows, and the edge of the siding/wall interface, to deny mites access to the structure. But realize it is challenging to pest-proof a structure from a 1 mm long pest!

Because this was such a heavy infestation that continued for over a month, insecticides were applied to the structure's perimeter and landscape where mites were active. In addition, interiors walls with mite activity were drilled and insecticidal dust injected. In many cases, this broad application of insecticides isn't necessary.

Clover mites are not feeding on the structure or the inhabitants – they need to feed on plants to grow and reproduce, so individual clover mites should not persist indoors for very long. Removing plants from the base of the foundation, limiting fertilizer applications for a while, pest-proofing, and applying insecticides to areas of activity when populations are high, should reduce populations found on the interior of the structure.

Modified from Vail, K. Clover Mites. Inse(ct)cure 2(4): 1-3. <https://epp.tennessee.edu/wp-content/uploads/2021/04/2021-4AprilCloverMites.pdf>

Sources

Gomez, C. and R. F Mizell III. 2017. EENY437 Clover Mites. University of Florida Featured Creatures http://entnemdept.ufl.edu/creatures/orn/mites/clover_mite.htm

Boyd, D., P. Zungoli and E. Benson. 2020. HGIC 2414 Clover Mites. Clemson University <https://hgic.clemson.edu/factsheet/clover-mites/>

What You Need to Know About Disinfectant Wipes

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The US EPA released new guidance on cleaning and using disinfectants earlier this month and this article greatly expands on it. To view this article, see <https://acis.cals.arizona.edu/docs/default-source/community-ipm-documents/newsletters/april2021azschoolandhomeipmnewsletter.pdf>

Revised UT School IPM Website Released in March

It's official, our school IPM website makeover is complete.

Please visit the new site at <https://schoolipm.tennessee.edu/> and let us know if you like it or have suggestions for improvement. To help you find the newsletter more easily, it is now linked from a tab on the top right of the home screen.



Figure 1. Disinfectant product with "KEEP OUT OF REACH OF CHILDREN".

Help! I've got ants in my classroom!

Jennifer Chandler



Crafts using food items should be sent home with students to help prevent pests in the classroom.

It's Monday afternoon and a teacher calls you about ants in their classroom. You check things out and see that the window is open since it's a warm spring day. Sure enough, there's a trail of ants crawling from the window to a baggie of sugary rainbow-colored cereal that students used for crafts. What's your plan? Correctly identify the ant before implementing any control measures. Ants have different food preferences and behaviors that will determine the treatment methods used. If you need assistance identifying the ant, contact your local county Extension agent or your pest control company. While waiting for the ID, you notice the screening on the window has a small hole in it. Exclusion is an essential component of your pest management plan. You patch the screen and caulk around the window to exclude ants from coming into the classroom in the future. Because the ants were feeding on the sugary cereal, you take this opportunity to educate the teacher about the importance of sanitation and keeping foods used for crafts or snacks in sealed pest-proof containers. Sending the completed crafts home with student artists can help prevent pests in the classroom. Your Extension agent emails you that the ants you sent her were odorous house ants, one of the most common ants entering structures. When you go back to the classroom to

inspect and see if ants are still coming in, you see that your exclusion methods and the teacher putting food items in a pest-proof container solved the problem. In this instance, there is no need for the pest control technician to treat ants in this classroom. If ants were still a problem after your pest-proofing efforts, then a bait could be applied by a certified pesticide applicator where the ants were active but out of the reach of students. Inspection, sanitation, and exclusion practices take time and effort but can eliminate unnecessary pesticide applications.



Use pest proof containers to store snacks and food used for crafts.



The odorous house ant (OHA) is the most common ant entering structures in Tennessee. To learn more about OHA and its management, see UT Extension's W473, <https://extension.tennessee.edu/publications/Documents/W473.pdf>.

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Partial support for this newsletter provided by the USDA
 NIFA CPPM EIP grant (# 2017-70006-27287) awarded to the
 University of Tennessee.

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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 Pests in the Home
<https://pestsinthehome.extension.org/>

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/](https://ipminstitute.org/projects/school-ipm-2020/)

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://utextension.tennessee.edu/office-locations-departments-centers/>

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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