

# Insec(tc)ure\*:

## Are you insecure about your insect cures?

A UT Urban IPM Lab Newsletter for the Pest Management Industry

### Clover Mites

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

After a lengthy discussion this week with a homeowner about how clover mites, *Bryobia praetiosa* Koch, persisted in her house for over a month, I decided clover mites would be the 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 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.

*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 (.75 – 0.85 mm) 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. (In the January Insec(tc)ure newsletter I described another parthenogenic species, the Asian longhorned tick.) 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.



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



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

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 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 house 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.

#### 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](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/>



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.

### **Wanted: Committee member for a OneHealth team to address delusory parasitosis**

We are in the process of forming a OneHealth team to address delusory parasitosis. Specifically, we want to develop an Extension publication describing the condition and a protocol for Extension agents to process specimens and provide support for these stakeholders. We plan for the team to consist of an urban entomologist, medical/veterinary entomologist, parasitologist, psychologist, dermatologist, Extension agent, pest management professional, the UT SPPC diagnostician, and an EPP graduate student. If you would like to volunteer for this service activity, please contact me ASAP. Because pest management professionals are often involved in the chain of specimen submissions, we think it is essential to have your input to develop these products.

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