

Colorado Coalition for School IPM Newsletter

March 2018

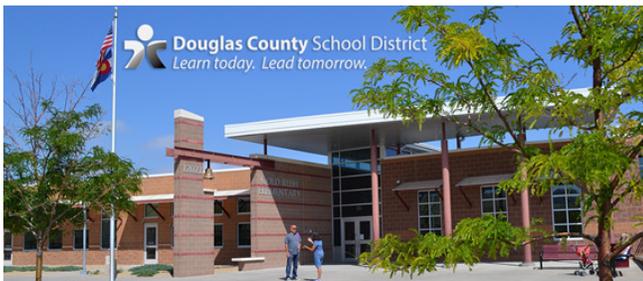
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CCSIPM Spotlight: Douglas County School District

Integrated Pest Management: Finding Your Champion

By Zach Nannestad, Environmental Health Manager,
Douglas County School District



Before IPM was introduced in its full extent to Douglas County School District, dealing with Pests was less of a process and more of a practice in repetition. A repetition of pest sightings, a repetition of phone calls and meager response, a repetition of not knowing what or how pest control companies were “managing” these pests.

And worst of all, repetition of doing it all again every week/month, because very little actions were taken to break the cycle. In spring of 2015, pest management

was thrown under the purview of Environmental Health for Douglas County District. Terms like IPM were thrown around a lot, but very little attention was paid to the actual details of IPM and when I saw how pest control was handled, I knew a lot of things had to change. As I immersed myself into the world of IPM, I discovered that this is not a program to be taken lightly. This was not going to be an easy switch for my district to take on. So many factors play a role and no two situations are the same. This was not going to take a one size fits all approach.

As taxing as an IPM program might be, I knew it was the right step. I knew I could not do it alone, in fact, I knew it would not succeed unless I found a few champions to help me. A “champion” is a person who takes extraordinary interest in the adoption, implementation, and success of a program*. A champion is someone with whom you can educate, empower, and most importantly collaborate with. I needed a few champions and I knew where to find them.

In Douglas County School District, we have a position that is the pivot point for all things facility related - they are called Building Engineers. Many other districts have them as well, but in DCSD, they are the gatekeepers to the building. If something is being fixed, replaced, maintained, cleaned, or otherwise impacted, they know. They act as liaisons between district personnel and their own building staff of teachers, administrators, nutrition folks, and custodians. In most cases they care for their building as if it were their own house, always going to great lengths to make sure that every detail is correct.

I knew these people would be my champions and for good reason. They were my eyes and ears at the school, always looking, always listening. If a pest was sighted they would soon know and take action. Likewise, if they identified opportunities for improvement such as unsealed food being kept in classrooms and offices, they could take the appropriate steps to educate those around them.

Because we needed these individuals on our side, we decided to start with them. For a program as large as

IPM, we brought all the building engineers in for a comprehensive training course (3 in fact), complete with hands-on experience. Thankfully, our regional experts were happy to participate, so the training was put on by folks like Clyde Wilson, Deb Young (one of the last courses she taught), Kent Holle, and Jonathan Handy. We were very lucky to get their expertise. Only because we got our building engineers involved early do I feel that IPM was a success (at least so far). If you find the task daunting to implement IPM district wide (or any multi-faceted program), just find your champion.

*<http://www.businessdictionary.com/definition/champion.html>

Colorado Coalition for School IPM Agency Partner Spotlight: Bed Bugs- AgriLife Extension

Are bed bugs worse than we thought?

Mike Merchant, Texas A&M AgriLife Extension Service

Insects in the City Blog, Feb 28, 2018

<https://insectsinthecity.blogspot.com/2018/02/are-bed-bugs-worse-than-we-thought.html>

Bed bugs are trouble. They drink our blood. They soil our homes with their feces and cast skins. They keep us awake at night and add stress to our already stressed out lives. And they're revolting to most people.

Until now, if there was one positive thing that could be said about bed bugs, it might be that they haven't been found to carry communicable disease. The impact of bed bugs seemed mainly to come down to sleepless nights and the economic sting of pest control expenses.

But newer studies seem to point to a darker side of these blood sucking pests. In 2011 Mississippi researchers Jerome Goddard and Richard deShazo scored postings from three popular bed bug websites. They determined that nightmares, insomnia, anxiety, personal dysfunction and other psychological problems were common among online visitors. Some visitors to the sites were so severely shaken by their bed bug experiences that they scored high on a scale for posttraumatic stress disorder (PTSD).

In addition to mental health impacts, in 2014 bed



Bed bugs produce an allergenic chemical called histamine to help them aggregate in sites like this mattress welt. Researchers worry that histamine may be adding another environmental allergen to our homes, like dust mites and cockroaches.

bugs were implicated as potential carriers of the Chagas disease pathogen, *Trypanosoma cruzi*. Michael Levy, one of the senior authors of the study, said "we've now shown that the bed bug can acquire and transmit the parasite [in mice]." But it remains to be seen whether bed bugs can pass the parasite to humans. Currently Chagas disease is only known to be transmitted by kissing bugs--large blood sucking parasites most common in Central and South America. If enough people with Chagas disease are exposed to, and fed on by bed bugs, it's theoretically possible that bed bugs could become a more important vector of the disease in the U.S. than kissing bugs.

Also, we now know that the causative agent for trench fever and several other diseases, *Bartonella quintana*, can be acquired and passed on in bed bug feces. The effects of trench fever range from mild to severe, even fatal. The disease has dogged soldiers in wartime for centuries, but until now doctors believed the pathogen was solely transmitted by body lice, insects prevalent among refugees, the homeless, and soldiers in camps and trenches. In a series of studies over the past six years researchers have been finding the bacteria in unexpected places. Traces of *Bartonella* DNA have been detected in head lice (like bed bugs, not common disease carriers), ticks, mites, and even cat flea feces. Now the focus is on bed bugs. In 2015 French scientists found the bacterium could survive in bed bug feces for up to 18 days. As with Chagas disease, the evidence falls short of proof that bed bugs do or can carry this disease to humans; but in light of the ongoing bed bug epidemic, the data are worrisome.

Finally, thanks to a paper published this month by entomologists at the University of North Carolina, we now know that bed bugs are a major indoor source of

the allergy-provoking chemical, histamine. Histamine was recently found to be one of the chemicals bed bugs use to attract other bed bugs into aggregations. In this study researchers collected house dust from homes both with- and without-bed bugs, and tested the dust for histamines.

“Histamine levels in bed bug infested homes were at least 20 times higher than histamine levels in homes without bed bugs,” said Zachary DeVries, lead author of the paper. Even worse, histamine levels remained high, even three months after homes were treated with heat treatments.

“Histamines are used in skin and respiratory allergy tests... they cause a bump in skin tests and restrict breathing in respiratory tests,” DeVries said. In addition, he notes in the paper that histamine exposure can result in thinning of the epidermis, possibly posing significant skin effects.

While this study didn’t look at health effects among people living with bed bugs, they speculate that risks posed by bed bug-produced histamine could rival the allergy- and asthma-causing effects of cockroaches and dust mites. They worry that because bed bugs live in bedrooms, where we spend the most amount of time indoors, the impacts might be multiplied.

This should remind us of our history with cockroach allergens. Not until the mid-1990s did public health experts and entomologists prove that cockroach allergens have a major impact on human health, especially in big cities. We’ve never looked at cockroaches in quite the same way since this discovery.

We may eventually have to rethink the way we think about bed bugs. Until then, keep tuned into bed bug news and continue to hone your bed bug fighting skills. After all, who more than your customers deserve a good night’s sleep?

Featured Pest of the Month: Carpet Beetles

Dermestid (Carpet) Beetles in Colorado and their Management

Dermestid beetles are probably the most common insects present found in Colorado homes and buildings. They are scavengers that can feed on a wide variety of foods humans provide.

Some species of dermestid beetles develop on materials of animal origin, including dead insects, pet hair, lint, woolen items, furs and feathers. Clothing and household furnishings made of

wool or fur are occasionally damaged by these insects and some of the more common species are often called “carpet beetles”, reflecting their importance as a pest of woolen carpeting. Fabrics and carpeting made of non-woolen materials are not damaged by dermestid beetles.

Other types of dermestid beetles primarily feed on grain or seed based materials. These are often found in kitchens and pantry areas where susceptible foods are stored and prepared. These types of dermestid beetles may develop anywhere in the building where crumbs of spilled foods are present. They may also be associated with caches of food stored by rodents behind building walls.



Figure 1: Furniture carpet beetle adult and larvae. Photograph courtesy of Clemson University/Bugwood.org



Figure 3: Black carpet beetle adult and larva. Photograph courtesy of Clemson University/Bugwood.org.

Dermestid beetles are commonly found outdoors as well as indoors. Outdoors their scavenging habits have an important role as they consume dead plant and animal materials; dermestid beetles are key players in the “clean-up” crew of

insects that help recycle nutrients in natural systems. Infestations that do occur indoors may result from migration of insects from outdoor sites into buildings or through movement of infested food materials.

General Appearance and Habits

Dermestid beetles go through four different stages in their development – an egg, a series of immature stages known as a larva (larvae in plural form), a transition stage known as the pupa, and the adult. Most dermestid beetles lay between 2-4 dozen eggs over a period of a month or so, with the eggs scattered among food material on which they can develop.



Figure 4: Varied carpet beetles adults feeding on Spirea pollen

Dermestid beetle larvae typically hatch from the eggs within 1-2 weeks after the eggs are laid. The larvae have a generally fuzzy appearance, being covered in hairs. Their body form is generally elongated and in

overall color they are reddish or light brown. Some species have distinct tufts or tails of hairs extending from the posterior. Like all insects, the developing larvae repeatedly shed their “skins” (exoskeleton) as they grow – often a dozen times or more in the course of becoming full-grown. These discarded larval skins retain a general resemblance to a larva, may accumulate around infested materials, and are often one of the more noticeable signs of a dermestid beetle infestation.

The length of time it takes for dermestid beetle larvae to develop varies very widely, and is dependent on things such as temperature and the quality of the food. Most of the common species found in homes typically have a larval period that lasts close to a year, but it can range from 3-4 months to nearly two years. If a food source disappears during the insect’s development, the larvae can survive for several weeks. Also, most dermestid beetle larvae are quite mobile, and may wander a



Figure 5: Varied carpet beetles. Photograph courtesy of Jim Kalisch, University of Nebraska

considerable distance in search of new food sources.

When larvae are full grown they transition to the pupal stage. The pupa occurs within the skin of the last stage larva. The pupal stage of a dermestid beetle lasts about 2-3 weeks and the adult then emerges.

Adult dermestid beetles have a generally oval body form, and range from about 2-5 mm in length. Many of the more commonly encountered species are generally dark brown to black. However, some of the smaller species are covered with colored scales of various patterns.

Most dermestid beetles that occur within buildings also occur as wild populations in Colorado. The larvae feed on various materials of animal origin and commonly occur in bird nests and animal dens. Adult beetles may feed on the pollen of plants, with flowers of *Spiraea*, *Viburnum* and spurge among those that are most commonly visited by dermestid beetles.

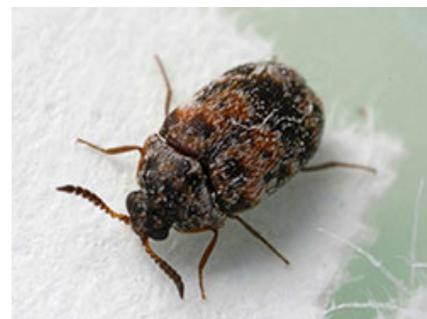


Figure 6: Trogoderma species of dermestid beetle. Photograph courtesy of Joseph Berger/Bugwood.org

Presumably, most household infestations originate from these wild populations when adult beetles fly indoors and find suitable indoor food sources. Carpet beetles also may be carried into a home on furniture and food items that are infested.

The most common dermestid beetles in homes have an annual life cycle that is completed in a year. Adults and wandering larvae are most commonly encountered indoors during late winter and early spring.

Common Dermestid Beetles found in Homes

Dermestid beetles occur throughout the state, both indoors and outside. Several species are nearly worldwide in distribution as they are commonly carried with stored food products. At least 39 species of dermestid beetles have been reported from the state, but only about a half dozen are commonly found in buildings.

Attagenus is a genus best represented by Attagenus unicolor unicolor, the black carpet beetle, which is one of the most common dermestids.

The smallest dermestid beetles found in homes are

in the genus *Anthrenus*. These are typically about 2-3 mm long and have a round body form. Adults have colorful body patterning produced by scales of yellow, browns and white. The larvae are spiny, with a body that is slightly narrower at the head end, which is often tipped with a small tuft of hairs.

Species that occur within homes in Colorado, in approximate order, are the varied carpet beetle (*Anthrenus verbasci*), furniture carpet beetle (*Anthrenus flavipes*), and common carpet beetle (*Anthrenus scrophulariae*).



Figure 7: Larva of a warehouse beetle, *Trogoderma variabile*. Photograph courtesy of Jim Kalisch, University of Nebraska

Adults are most common in late spring and can be seen feeding on nectar and pollen of various small flowers. They are strong fliers and usually enter buildings in spring, often colonizing areas behind walls or attics where dead insects collect on which they feed. One generation is normally produced annually with winter spent as a late stage larva or pupa in a semi-dormant condition (diapause).

Dermestid beetles in the genus *Trogoderma* are also general scavengers but are often develop on plant materials such as seeds, nuts, herbs, spices, and cocoa. Some are important pests of stored foods. Adults are oblong bodied, about 3-4 mm long and generally dark bodied. Wavy bands or faint patches mark the wing covers of some species, and this is a feature of one of the most common dermestid beetles found in buildings, *Trogoderma variabile*, known as the warehouse beetle. Larvae are elongate bodied and tend to be lighter colored than most other dermestids. Like most dermestids, the orglife cycle can be highly varied due to diet and temperature but *Trogoderma* species may continuously develop and produce more than one generation annually.

Dermestes species are most commonly associated with meat-based material (including dried pet foods). These are moderate-sized (6-10 mm) beetles of oblong form. Most are generally dark colored

but one common species known as the larder beetle (*Dermestes lardarius*) has a wide yellow band with dark spots across the wing covers. The larvae are dark reddish-brown with a tapered body form. When full-grown they usually wander from the food source and tunnel to produce a pupation chamber. They have strong jaws and have been known to excavate wood beams during this stage. The overwintering stage is normally an adult and they are strong flying insects that are most commonly seen in late spring and early summer.

Some species of *Dermestes* are used by museum zoology departments and taxidermists to clean flesh from bones. These are often referred to as hide beetles because of their ability to feed on dried skin and hair.

Prevention and Control

The most important step to take to manage an existing infestation of dermestid beetles is to locate and then eliminate any site where they are developing. Evidence of discarded skins of larvae and living larvae are often what is most closely found that can identify a site of breeding insects. Adult insects may wander a considerable distance from breeding sites.

For those dermestid beetles that develop on animal material inspection should concentrate on areas where lint and hair tends to accumulate: areas under carpets and along carpet edges; under seldom-moved furniture; in floor cracks, registers and ducts; and in folds of upholstered furniture. Check stored woolen clothing, wool flannel and yarn in attics, basements and closets. Items made of fur and hair, feathers and preserved animals may also be sources that allow dermestid beetles to breed. Other possible breeding sites are old animal or bird nests that may be attached to the building and collections of dead insects around windows or behind walls.



Figure 8: Larder beetles. Photograph courtesy of Jim Kalisch, University of Nebraska

For those dermestid beetles that may be developing on flour, grains, nuts, seeds give particular attention to areas where these types of food products have been stored for long periods. These food sources usually will be in pantry and food storage areas. However,

dermestid beetles may also develop on grains and nuts stored by rodents and squirrels in nesting areas behind walls.

Wherever a source is found that allows dermestid beetles to reproduce, this should be removed and destroyed. Objects that cannot be discarded or destroyed, such as woolen items or food that is minimally infested, can be disinfested by treating in a manner that kills all life stages of a dermestid beetle. This can be done by freezing or heat treating.

Relatively small items infested with dermestid beetles can be placed in a deep freezer that can drop temperatures below 0oF. Items consistently maintained at these low temperatures for three days or more can usually kill all stages of these insects.

High temperatures can also be used to kill dermestid beetles in infested items. Exposure to above 130oF for several hours can kill dermestid beetles. Clothes driers and dry-cleaning can be used to kill insects infesting clothing or fabrics. Successfully disinfesting larger items, either by deep freezing or heat, will require longer times to achieve sustained temperatures penetrating into the material that can kill insects.

Once disinfested, storing food, woolens, furs and other susceptible items in insect-proof containers can effectively prevent further access by dermestid beetle larvae and adults. Storing susceptible materials at low temperatures (below about 40oF) also can prevent successful development of dermestid beetles.

By periodically vacuuming up lint and hair, collections of dead insects around window wells, and any spilled grain materials most sites where dermestid beetles can breed will be eliminated. Vacuuming should give particular attention to areas where lint accumulates and also to stuffed furniture where food crumbs may collect. Since dermestid beetles that are picked up during vacuuming may continue to develop within the collected material, the bags or containers should be disposed if there is any chance that the insect may be able to escape.

Most dermestid beetles fly and may enter buildings through sites such as cracks around edges of windows or doors, through vents and openings under eaves, or through unscreened doors or windows. Sealing buildings to prevent these access areas can help reduce sources of new infestations.

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Chemical Controls

Insecticides should only be used in combination with efforts that provide a thorough cleanout of potential breeding sites and vacuuming/removal of existing insects. Alone they will not effectively manage dermestid beetles.

In managing an existing infestation of dermestid beetles there may be some value in using insecticides to supplement control methods. In nonfood areas household formulation of various pyrethroid insecticides can be applied as sprays. Use of these insecticides must be made strictly in accordance to label directions.

Most indicate that applications are applied to cracks and crevices, such as baseboard areas, corners, edges of carpeting and other areas where lint and other debris accumulates. Several over-the-counter insecticides that allow such use are sold through retail outlets and contain as the active ingredient either permethrin, bifenthrin, deltamethrin, cypermethrin, tralomethrin and/or related compounds. (Note: Household “bug bombs” will not be effective against dermestid beetles).

W.S. Cranshaw, Colorado State University Extension entomologist and professor, bioagricultural sciences and pest management.

Current Pests: What Are You Seeing?

Arapahoe, Douglas, & Elbert Counties

Boxelder bugs, conifer seed bugs, cluster flies:
Overwintered adults become active in and around homes.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Subterranean termites: Winged adults of the aridland subterranean termite fly in late winter.

Oystershell scale: Scrape scales with eggs off limbs of aspen, ash and other host plants.

Flickers: Males are actively drumming on buildings and defending territories during mating season.

Swallow Bugs: Overwintered swallow bugs become active in anticipate of returning migrant birds and bite humans.

Millipedes: Nuisance movements into homes occurs following wet weather.

Ants: Field ants forage in homes for sweet materials.

Carpet beetles: Some species of carpet beetles are noticeable in spring when they transform to adults.

Poplar twiggall fly: Larvae begin to leave galls and pupate in soil at the base of trees.

Dormant oils: Many insects that winter on plants can be controlled with dormant applications of horticultural oils.

Ips beetles: Ips (engraver) beetles may be active during warm periods. Recently transplanted pines may need protection.

Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees.

Spider mites on conifers: Spring activity of spider mites on junipers, pines, arborvitae and spruce increase during spring.

Clover mites: Mites are actively feeding on lawns near buildings and shrubs during warm days.

Nightcrawlers: Tunneling activities during spring can create lumpy lawns.

Vole injury: Tunneling injuries in lawns and girdling of shrubs may be evident as snow melts.

Denver Metro Area

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Winged termites: Winged reproductive stages continue to swarm in late winter.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Ants: Foraging by field ants for sweet materials intensifies in homes.

Poplar twiggall fly: Larvae begin to leave galls and pupate in soil at the base of trees.

Oystershell scale: Scrape scales with eggs off limbs of

aspen, ash and other host plants.

Ips beetles: Ips (engraver) beetles may be active during warm periods. Spruce and pines in high risk sites may need protection.

Clover mites: Mites are actively feeding on lawns near buildings and shrubs during warm days.

Nightcrawlers: Tunneling activities during spring can create lumpy lawns.

Vole injury: Tunneling injuries in lawns and girdling of shrubs may be evident as snow melts.

Flickers: Males are actively drumming on buildings and defending territories during mating season.

Ants, clover mites: Movements indoors continue.

Poplar twiggall fly: Larvae continue to leave galls and pupate in soil at the base of trees.

Dormant oils: Many insects that winter on plants can be controlled with dormant applications of horticultural oils.

Pinyon needle scale: Females produce cottony egg sacks on branches and trunk.

Ips beetles: Ips (engraver) beetles may be active during warm periods. Spruce and pines in high risk sites may need protection.

Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees.

Spider mites on juniper: Spring populations may begin to increase; monitor plants.

Eastern Plains Counties

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Millipedes: Nuisance movements into homes occurs following wet weather.

Winged termites: Winged reproductive stages continue to swarm in late winter.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Ants: Foraging by field ants for sweet materials intensifies in homes.

Oystershell scale: Scrape scales with eggs off limbs of aspen, ash and other host plants.

Clover mites: Mites are actively feeding on lawns near buildings and shrubs during warm days.

Nightcrawlers: Tunneling activities during spring can create lumpy lawns.

Vole injury: Tunneling injuries in lawns and girdling of shrubs may be evident as snow melts.

Flickers: Males are actively drumming on buildings and defending territories during mating season.

Dormant oils: Many insects that winter on plants can be controlled with dormant applications of horticultural oils.

Ips beetles, twig beetles: These bark beetles may be active during warm periods. Recently transplanted pines may need protection. Pinyon Ips may attack new trees at this time; preventive insecticides should be applied before trees are attacked.

Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees

El Paso & Teller Counties

Boxelder bugs, conifer seed bugs, cluster flies: Overwintered adults become active in and around homes.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Winged termites: Winged reproductive stages of the aridland subterranean termite fly in late winter.

Oystershell scale: Scrape scales with eggs off limbs of aspen, ash and other host plants.

Flickers: Males are actively drumming on buildings and defending territories during mating season.

Swallow Bugs: Overwintered swallow bugs become active in anticipate of returning migrant birds and bite humans.

Millipedes: Nuisance movements into homes occurs following wet weather.

Ants: Field ants forage in homes for sweet materials.

Poplar twiggall fly: Larvae begin to leave galls and pupate in soil at the base of trees.

Dormant oils: Many insects that winter on plants can be controlled with dormant applications of horticultural oils.

Ips beetles: Ips (engraver) beetles may be active

during warm periods. Recently transplanted pines may need protection.

Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees.

Spider mites on juniper: *Platytetranychus libocedri* populations may begin to increase on arborvitae.

Tiger moth: Tents and actively feeding larvae may be observed in pinyon and juniper.

Clover mites: Mites are actively feeding on lawns near buildings and shrubs during warm days.

Nightcrawlers: Tunneling activities during spring can create lumpy lawns.

Vole injury: Tunneling injuries in lawns and girdling of shrubs may be evident as snow melts.

High Country Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Boxelder bugs, conifer seed bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Oystershell scale: Scrape scales with eggs off limbs of aspen, ash and other host plants.

Flickers: Males are actively drumming on buildings and defending territories during mating season.

Swallow Bugs: Overwintered swallow bugs become active in anticipate of returning migrant birds and bite humans.

Millipedes: Nuisance movements into homes occurs following wet weather.

Ants: Field ants forage in homes for sweet materials.

Poplar twiggall fly: Larvae begin to leave galls and pupate in soil at the base of trees.

Dormant oils: Many insects that winter on plants can be controlled with dormant applications of horticultural oils.

Ips beetles: Ips (engraver) beetles may be active during warm periods. Recently transplanted pines and pines in outbreak areas may need protection.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days.

Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees.

Spider mites on juniper: *Platytranychus libocedri* populations may begin to increase on arborvitae.

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Northern Front Range

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Millipedes: Nuisance movements into homes occurs following wet weather.

Winged termites: Winged reproductive stages continue to swarm in late winter.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Ants: Foraging by field ants for sweet materials intensifies in homes.

Poplar twig gall fly: Larvae begin to leave galls and pupate in soil at the base of trees.

Oystershell scale: Scrape scales with eggs off limbs of aspen, ash and other host plants.

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Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees.

Spider mites on juniper: *Platytranychus libocedri* populations may begin to increase on arborvitae.

Pueblo & Fremont Counties

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Millipedes: Nuisance movements into homes occurs following wet weather.

Winged termites: Winged reproductive stages continue to swarm in late winter.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Ants: Foraging by field ants for sweet materials intensifies in homes.

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Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees.

Southwestern Counties

Boxelder bugs, conifer seed bugs, cluster flies: Overwintered adults become active in and around

homes.

Clover mites: Migrations of mites into buildings may become noticeable; movement of outdoor host plants, such as grasses, may begin to produce injuries.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Swallow bugs: Overwintered swallow bugs become very active and peak period of human bites can occur at this time.

Bullpine sawfly: Overwintered larvae may be observed feeding on older needles of ponderosa pine.

Oystershell scale: Scrape scales with eggs off limbs of aspen, ash and other host plants.

Dormant oils: Many insects that winter on plants can be controlled with dormant season applications of horticultural oils.

Ips/Engraver Beetles: First flights of some species may occur by this time during warm seasons.

Millipedes: Nuisance movements into homes occurs following wet weather.

Ants: Field ants forage in homes for sweet materials.

Boxelder bugs, conifer seed bugs, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Ips beetles: First flights of some species can be expected by this time. Preventive insecticide applications should be made before flights.

Dormant oils: Many insects that winter on plants can be controlled with dormant season applications of horticultural oils.

Tiger moth: Tents and actively feeding larvae may be observed in pinyon and juniper.

Clover mites: Mites are actively feeding on lawns near buildings and shrubs during warm days.

Nightcrawlers: Tunneling activities during spring can create lumpy lawns.

Vole injury: Tunneling injuries in lawns and girdling of shrubs may be evident as snow melts.

Tri-River Counties

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Millipedes: Nuisance movements into homes occurs following wet weather.

Winged termites: Winged reproductive stages continue to swarm in late winter.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes.

Ants: Foraging by field ants for sweet materials intensifies in homes.

Oystershell scale: Scrape scales with eggs off limbs of aspen, ash and other host plants.

Ips beetles, twig beetles: These bark beetles may be active during warm periods in late winter. Recently transplanted pines may need protection. Trees grown in outbreak areas may need protection.

Clover mites: Mites are actively feeding on lawns near buildings and shrubs during warm days.

Nightcrawlers: Tunneling activities during spring can create lumpy lawns.

Dormant oils: Many insects that winter on plants can be controlled with dormant applications of horticultural oils.

Ips beetles, twig beetles: These bark beetles may be active during warm periods. Recently transplanted pines may need protection. Trees grown in outbreak areas may need protection.

Southwestern pine tip moth: Adults begin to emerge from pupae at the base of trees.

White pine weevil: Adults may be expected to be laying eggs around this time.

Honey bees: Honeybees will begin to forage during warm days. During this time they will visit sources of water and pollen.

Clover mites: Nuisance migrations into homes may be observed during warm days. Most activity is on south and west sides of buildings. Clover mites will continue to be active for the next two months.

Source: <http://bspm.agsci.colostate.edu/outreach-button/insect-information/> (Yard/Garden Insect Calendars)

Credits

Editors: Clyde Wilson, U.S. EPA Region 8; Assefa Gebre-Amlak, CSU Extension; Frank Peairs, CSU Extension; Thia Walker, CEPEP.

Design & layout: Kierra Jewell

“Pest of the month” photo(s): Whitney Cranshaw, CSU Professor & Extension Specialist

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Please contact Assefa Gebre-Amlak at:

Assefa.Gebre-Amlak@colostate.edu

(970) 491-2666