

Colorado Coalition for School IPM Newsletter

April 2019

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Colorado Coalition for School IPM Agency Partner Spotlight:

Spring Pigeon Roosting Season is Fast Approaching: Humane Ways to Minimize Pigeon Damage and Risks

By Marcia Anderson

Pigeons, pigeons, everywhere. They are an integral part of Urban living. Getting rid of all the pigeons is unrealistic and on the positive side, these birds perform valuable services in removing food waste and/or eating harmful insects. But urban pigeon problems can range from excessive noise to large



quantities of excrement deposited on sidewalks, cars, and buildings.

When they roost in an area, pigeons leave behind feathers and nesting material, fleas and [bird mites](#), and of course, most of all, they leave lots of droppings. Pigeon droppings are not only unsightly, they are also highly caustic and can wear down

stone, degrade marble statues and building materials, corrode metal and car paint, and potentially threaten structural integrity. For example, pigeon excrement on gas station canopies can clog downspouts leading to their collapse during rainfall. The droppings are also unsanitary; they are high in nitrogen and can grow fungus or bacteria. People can inhale the fungal spores and contract the lung disease histoplasmosis. Pigeons also carry salmonella, cryptococcosis, and other diseases.

If pigeons are a nuisance on your building here are a few tips to try:

Exclusion: A variety of products are available to prevent birds from loafing on ledges.

- Inspect for nests and remove them every two weeks. Focus on keeping pigeons out of buildings and other spaces.
- Screen all soffit vents and other potential entry points with rust-proof wire mesh.
- Keep pigeons off ledges by covering them with a sloping piece of plastic or sheet metal. The bird slope is a humane method to discourage roosting of birds on buildings and ledges. As the name suggests, the triangular-shaped item made of heavy plastic attaches to gutters or ledges with the slope facing outward. The bird slope leaves birds without any way to roost or land on the building.
- Nonelectric products include spikes, coils, and wires. They are easily installed and have a high rate of success. Bird spikes are placed on building ledges and gutters with the spikes spaced closely together leaving birds with no place to roost or land. They are made of heavy plastic, resemble toothpicks and work on flat or curved surfaces. This device is also a humane way to prevent roosting pigeons.
- Electric products employ nonlethal electric pulses to discourage birds from roosting. These devices may be powered through plugging the charger into an electrical outlet or by solar panels that charge a battery.

- Light Mylar streamers and raptor silhouettes move easily in the wind and temporarily scare off birds. However, pigeons can quickly grow accustomed to them.

Habitat Modification: The best way to control pigeon populations is through the removal of food, water and roosting sites.

Solutions that either don't work or are potentially dangerous to non-target wildlife:

- Loud noises are more likely to annoy neighbors than pigeons. City birds are used to city noises and don't seem to startle easily.
- Ultrasonic noises: ultrasonic sound waves bounce off objects, creating spots where pigeons can avoid the sound, plus they may damage the hearing of cats and dogs.
- Pigeon poisons and chemical repellents are available, but they can kill or sicken other birds or animals.
- Sticky repellents are not recommended. Other birds may encounter the repellent, which may impair their ability to fly or stay warm if the product comes into contact with their feathers.

About the Author: Marcia is with EPA Headquarters' Office of Pesticides Program (OPP) Center of Expertise for School IPM. She holds a PhD in Environmental Management, along with degrees in Biology, Environmental Design, Landscape Architecture, and Instruction and Curriculum. Marcia was formerly with the EPA Region 2 Pesticides Program and a professor of Earth and Environmental Studies, for 15 years at several NJ universities.

Featured Pest of the Month: European Paper Wasp

The European paper wasp, *Polistes dominula*, is a newly established insect now abundant in many areas of Colorado. The paper nests of this wasp are commonly observed in yards and gardens and the wasp is involved in stinging incidents. The European paper wasp develops as a predator of caterpillars and some other insects, populations of which have probably been affected by the establishment of this new wasp.

The European paper wasp is a generally black insect marked with yellow. They are fairly slender-bodied insects with a distinct constriction of the body between the thorax and abdomen.

The European paper wasp is superficially similar to and commonly mistaken for various yellowjackets (*Vespula* spp.). Several yellowjacket species are native to Colorado and these historically have been the most significant stinging insects of the region. A somewhat blunter, more compact body form distinguishes yellowjackets from the European paper wasp. Also, the long hind legs of paper wasps tend to trail below when the insects are in flight.



Figure 1. European paper wasp.



Figure 2. Western yellowjacket, the most common species mistaken for European paper wasp.

Introduction of European paper wasp to Colorado

The European paper wasp is the common paper wasp of Europe. It was first found in North America in the 1970s in the Boston area. Since then it has spread rapidly to much of the northern

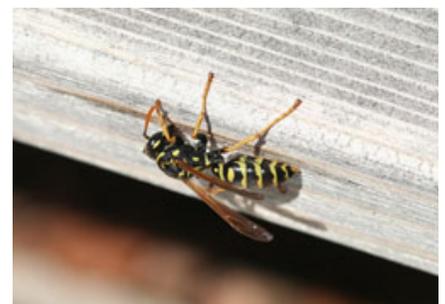


Figure 3. European paper wasp gnawing on weathered wood.

half of the United States and British Columbia. The first Colorado record for the species is August, 2001 from Larimer County, and it likely entered eastern Colorado shortly before 2000. The first Utah record dates from 1995, suggest western Colorado may have been colonized earlier. Wherever it has established, the European paper wasp has usually become a common species within a few years. Currently it is now considered very abundant in every urbanized county in eastern Colorado and the three western Colorado counties of Mesa, Montrose, and Delta. Presently it is not thought to occur in much of the higher elevation counties, but is known in Steamboat Springs.

Life History and Habits

The European paper wasp is a social insect that produces an annual colony in a paper nest. Individual colonies are established anew each spring. The overwintering stage are females (queens), only slightly larger than the wasps typically observed during summer. Female wasps that were fertilized the previous fall survive winter in protected sites in and around a yard. When they emerge from overwintering shelters, they may be seen on warm days as they seek sites to establish new nests. Earliest activity is sometimes seen in the first half of March.

Nests are constructed of paper, produced from chewed wood fibers of weathered fences, porch decks and similar sites. Initially, a few hexagonal paper cells are formed and eggs laid in the cells. Upon hatch, the wasp larvae are fed crushed insects, usually caterpillars that the overwintered queen discovers in foraging trips among nearby plants. When full grown the larvae then seal over the cell and pupate. Development of the wasps to the adult form is usually completed in 3 to 4 weeks after eggs are laid. The new wasps assist in colony activities of nest construction, foraging, and caring for young. The original queen increasingly remains restricted to the nest as new workers take over colony activities.



Figure 4. Developing wasp larvae and capped pupae.



Figure 5. European paper wasp at nest.

The colony continues to grow through the summer and may contain several dozen individuals by the end

of summer. The nest is continuously expanded and reconstructed through the summer and may contain a hundred or more cells by fall. A few of the wasps produced later in summer are males and increasing numbers of the females become sexually mature at that same time. Mating occurs and the mated females are the surviving overwintering stage. Males and non-reproductive females do not survive winter and the nest is abandoned by late fall.

The fertilized overwintering females seek protected sites for shelter during the cold season. Often they find winter shelter outdoors but occasionally they will find suitable areas behind walls or in other areas of the house. These wasps sometimes will move about during warm periods and may find themselves within the living space. Such wintertime encounters do not indicate the presence of an active nest, only that some wasps have found some pocket of winter shelter within the building. Overwintered females emerge from these areas in spring and search out sites to establish nests in the neighborhood.

Nests are almost always established in new locations each year and several kinds of nest sites are particularly favored (new nests sometimes are established at the same site the following year). Dark cavities are often used, including those found in outdoor grills, large bells, pipes, rock cavities, and hollow spaces behind walls. Nests are also commonly attached to wood on the underside of porch decks, eaves of homes or other overhangs. Nests are almost always attached to either wood, roughened metal surfaces, or rock.

Paper wasp nests are not covered with a surrounding envelope of paper. Paper envelopes that surround a nest are characteristic of yellowjackets (*Vespula* spp.) and hornets (*Dolichovespula* spp.), the other social wasps found in Colorado. Yellowjackets nest underground or, occasionally, behind walls; hornets make conspicuous football-sized nests attached to branches or under eaves.

The European paper wasp is capable of stinging. Among the stinging insects found in the state European paper wasp is relatively non-aggressive, and somewhat less likely to sting than are most yellowjackets and bumble bees. Stings from



Figure 6. European paper wasps nesting in clothes line.

European paper wasp occur almost exclusively when nests are accidentally disturbed.

European paper wasps rear their young on live insects. They do not produce nuisance problems around outdoor dining that characterize scavenging species, such as the western yellowjacket. European paper wasps will sometimes feed on sweet materials, including honeydew produced by aphids. On rare occasions, they also may feed and damage ripe fruit. This habit is particularly notable in cherries and some other well-ripened stone fruits grown on the West Slope, where they may be serious pests.

European paper wasps have become one of the most important natural controls of many kinds of yard and garden insects. Most commonly they feed on caterpillars, including the larvae of hornworms, cabbageworms, and tent caterpillars. Sawfly larvae are also commonly taken prey.

European paper wasps can be encouraged to nest in nest boxes. Artificial nest sites can be useful if one wants the benefits of these insects with a known nest location so accidental disturbances can be avoided. A typical nest box would be made of wood and at least 4-in x 4-in x 4-in, open at the bottom. They should be mounted several feet above ground on a solid post.



Figure 7. A nest box designed to house European paper wasp.



Figure 8. European paper wasps in nest box.

Other Paper Wasps of Colorado

Three other species of paper wasps are native to the state—*Polistes fuscatus* (golden paper wasp), *Polistes apachus* and *Mischocyttarus flavitarsus* (western paper wasp). There is no evidence that the new species has significantly affected their activities. In rural areas, away from buildings and human structures, these native paper wasps are the predominant species of paper wasp one will likely



Figure 9. Golden polistes, *Polistes fuscatus*.



Figure 10. *Polistes apachus*, a native species of southeast Colorado.

find. All of these other paper wasps have generally similar biologies to the European paper wasp.

Control of European Paper Wasp

If nests are not in a location where they are likely to be disturbed, it is usually best to leave them in place. The nests will be abandoned at the end of the season and they then can be safely removed.

Individual nests can be destroyed. Insecticides are often used for this purpose and a wide variety of “wasp and hornet” marketed products are effective. If nests are treated it is recommended to apply treatments in the evening. At this time most of the wasps have returned to the nest so that they can be killed and, after dark, flying activities are greatly reduced.

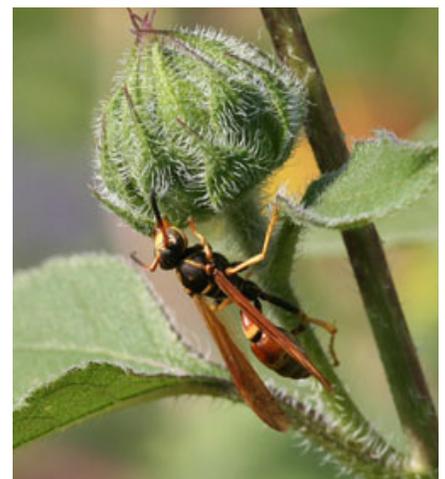


Figure 11. Western paper wasp, *Mischocyttarus flavitarsus*.

After the nest has been killed it should be removed and destroyed. This will eliminate larvae that were within capped cells during spraying. These usually survive and later will emerge. It is also recommended that after a nest is removed the area also be washed with a jet of water to eliminate colony odors. These practices will inhibit surviving wasps, not present on the nest when it was destroyed, from attempting to reestablish a nest upon return.

There are no traps or lures that can be used to control this species. Commercially available 'wasp traps' are designed to attract certain kinds of yellowjackets and contain baits such as fruit juices, fresh meat, or heptyl butyrate (found in many retail wasp lures). None of these are attractive to the European paper wasp. There has not been any type of trap identified as effective for this species. (Large numbers of the native western yellowjacket, *Vespula pensylvanica*, and prairie yellowjacket, *V. atripilosa*, are captured by these traps.)

Source: W. Cranshaw, Colorado State University Extension entomology specialist, and professor, bioagricultural sciences and pest management

Current Pests: What Are You Seeing?

Arapahoe, Douglas, & Elbert Counties

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

Boxelder bugs, elm leaf beetles, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Tick season: Tick season usually has started and typically persists until high temperatures occur in early summer.

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

Clover mites: Clover mite migrations into homes occur during warm days

European paper wasp: Overwintered queens start to establish new nests

Ips beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk spruce and pines.

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

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April or early May.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Honeysuckle witches' broom aphid: Prune out old, damaged terminals that contain eggs.

Conifer sawflies: Larvae feed on older growth of various pines.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Lilac/ash borer: Flights of adult moths may begin.

Poplar twiggall fly: Adults emerge and begin to lay eggs in emerging aspen shoots.

Spider mites on pines: Populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Douglas-fir beetle: In forested areas, adult emergence, flights and tree attacks may begin.

Brownheaded ash sawfly: Adults may lay eggs during warm days following bud break.

Zimmerman pine moth: Approximate treatment timing for overwintered larvae.

Turfgrass mites: Clover mites continue to feed on lawns and enter homes in nuisance migrations.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

Denver Metro Area

Boxelder bugs, elm leaf beetles, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Millipedes: Nuisance movements into homes occurs following wet weather.

Tick season: Tick season usually has started and usually persists until high temperatures occur in early summer.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Ips beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk spruce and pines.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April.

Zimmerman pine moth: Overwintered larvae remain exposed on the trunk and can be controlled at this time.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Honeysuckle witches' broom aphid: Prune out old, damaged terminals that contain eggs.

European elm bark beetle: Pruned elm wood and logs should be destroyed prior to beetle emergence.

Conifer sawflies: Larvae feed on older growth of various pines.

Rocky Mountain billbug: Overwintered larvae may damage roots of turfgrass.

Turfgrass mites: Clover mites continue and banks grass mites begin to increase in droughty areas.

Sod webworms, cutworms: Damage to lawns by webworms and cutworms begin at this time.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Brownheaded ash sawfly: Watch for pin-hole feeding wounds prior to peak feeding damage. Swarms of adult insects may be observed and eggs laid in leaves.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Zimmerman pine moth: Overwintered larvae will may begin to move into trunk over the next few weeks.

Lilac/ash borer: Flights of adult moths may begin.

Poplar twiggall fly: Adults emerge and begin to lay eggs in emerging aspen shoots.

European elm bark beetle: Preventive sprays should be completed before adults emerge and fly.

Pinyon tip moth: Larvae remain exposed on bark and can be controlled at this time

Spider mites on pines: *Oligonychus subnudus* populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Douglas-fir beetle: In forested areas, adult emergence, flights and tree attacks may begin.

Hawthorn mealybug: Overwintered stages on trunk move to twigs and feed.

Walnut twig beetle: Adults move from overwintering sites on trunk to initiate tunnels in twigs, branches.

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

Eastern Plains Counties

Boxelder bugs, elm leaf beetles, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Ips beetles: Ips beetle flights may begin if there are periods of warm, sunny weather.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Honeysuckle aphid: Prune out old, damaged terminals that contain eggs.

European elm bark beetle: Pruned elm wood and logs should be destroyed prior to beetle emergence.

Conifer sawflies: Larvae feed on older growth of various pines.

Denver billbug: Overwintered larvae may damage roots of turfgrass.

Turfgrass mites: Clover mites continue and banks grass mites begin to increase in droughty areas.

Sod webworms, cutworms: Damage to lawns by webworms and cutworms begin at this time.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Lilac/ash borer: Flights of adult moths may begin.

European elm bark beetle: Preventive sprays should be completed before adults emerge and fly.

Spider mites on pines: *Oligonychus subnudus* populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Ash sawfly: Typical period of peak egg laying

Poplar twig gall fly: Adults emerge and feed on sap from leaves; egg laying may begin

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

Cutworms: Army cutworm injury may peak at this time. Injury can occur in gardens, lawns, wheat and alfalfa fields

European paper wasp: Nest initiation usually has begun

Spider mites: Injury by banks grass mite increases. Clover mite populations should be decreasing.

El Paso & Teller Counties

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

Boxelder bugs, elm leaf beetles, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Tick season: Tick season usually has started and typically persists until high temperatures occur in early summer.

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

Clover mites: Clover mite migrations into homes occur during warm days

Ips beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk spruce and pines.

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

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April or early May.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Honeysuckle witches' broom aphid: Prune out old, damaged terminals that contain eggs.

Conifer sawflies: Larvae feed on older growth of various pines.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Lilac/ash borer: Flights of adult moths may begin.

Poplar twiggall fly: Adults emerge and begin to lay eggs in emerging aspen shoots.

Spider mites on pines: Populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Douglas-fir beetle: In forested areas, adult emergence, flights and tree attacks may begin.

Brownheaded ash sawfly: Adults may lay eggs during warm days following bud break.

White pine weevil: Adults move to spruce terminals to mate and lay eggs.

Zimmerman pine moth: Approximate treatment timing for overwintered larvae.

Turfgrass mites: Clover mites continue to feed on lawns and enter homes in nuisance migrations.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

High Country Counties

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

Boxelder bugs, elm leaf beetles, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Tick season: Tick season usually has started and typically persists until high temperatures occur in early summer.

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

Earwigs: First generation eggs hatch about this time.

Ips beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk pines.

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

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April or early May.

White pine weevil: Overwintered adults may become active and move to terminals of spruce to feed and lay eggs if daily temperatures exceed 50°F.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Honeysuckle aphid: Prune out old, damaged terminals that contain eggs.

Conifer sawflies: Larvae feed on older growth of various pines.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Lilac/ash borer: Flights of adult moths may begin.

Poplar twiggall fly: Adults emerge and begin to lay eggs in emerging aspen shoots.

Spider mites on pines: *Oligonychus subnudus* populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Douglas-fir beetle: In forested areas, adult emergence, flights and tree attacks may begin.

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

White pine weevil: Overwintered adults may become active and move to terminals of spruce to feed and lay eggs if daily temperatures exceed 50F.

Turfgrass mites: Clover mites continue to feed on lawns and enter homes in nuisance migrations.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

Northern Front Range

Boxelder bugs, elm leaf beetles, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Tick season: Tick season usually has started and usually persists until high temperatures occur in early summer.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Ips beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk spruce and pines.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Honeysuckle aphid: Prune out old, damaged terminals that contain eggs.

European elm bark beetle: Pruned elm wood and logs should be destroyed prior to beetle emergence.

Conifer sawflies: Larvae feed on older growth of various pines.

Denver billbug: Overwintered larvae may damage roots of turfgrass.

Turfgrass mites: Clover mites continue and bank grass mites begin to increase in droughty areas.

Sod webworms, cutworms: Damage to lawns by webworms and cutworms begin at this time.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Lilac/ash borer: Flights of adult moths may begin.

Poplar twig gall fly: Adults emerge and begin to lay eggs in emerging aspen shoots.

European elm bark beetle: Preventive sprays should be completed before adults emerge and fly.

Pinyon tip moth: Larvae remain exposed on bark and can be controlled at this time

Spider mites on pines: *Oligonychus subnudus* populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Douglas-fir beetle: In forested areas, adult emergence, flights and tree attacks may begin.

Hawthorn mealybug: Overwintered stages on trunk move to twigs and feed.

Ips beetles: Flights will continue during warm days

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

Pueblo & Fremont Counties

Boxelder bugs, elm leaf beetles, cluster flies: Overwintered adults become increasingly active in and around homes during warm periods.

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Ips beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk spruce and pines.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Honeysuckle aphid: Prune out old, damaged terminals that contain eggs.

European elm bark beetle: Pruned elm wood and logs should be destroyed prior to beetle emergence.

Conifer sawflies: Larvae feed on older growth of various pines.

Denver billbug: Overwintered larvae may damage roots of turfgrass.

Turfgrass mites: Clover mites continue and banks grass mites begin to increase in droughty areas.

Sod webworms, cutworms: Damage to lawns by webworms and cutworms begin at this time.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Lilac/ash borer: Flights of adult moths may begin.

European elm bark beetle: Preventive sprays should be completed before adults emerge and fly.

Spider mites on pines: *Oligonychus subnudus* populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Ash sawfly: Typical period of peak egg laying

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

Spider mites: Injury by banks grass mite increases. Clover mite populations should be decreasing.

Southwestern Counties

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

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Tick season: Tick season usually has started and typically persists until high temperatures occur in early summer.

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

Ips beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk spruce and pines.

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April or early May.

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

White pine weevil: Overwintered adults may become active and move to terminals of spruce to feed

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insects emerge.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Lilac/ash borer: Flights of adult moths may begin.

Spider mites on pines: *Oligonychus subnudus* populations may increase rapidly on ponderosa and other susceptible pines

Turfgrass mites: Clover mites continue to feed on lawns and enter homes in nuisance migrations.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Spinach leafminer: Egg laying and tunneling begins in older spinach foliage.

Tri-River Counties

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

Carpet beetles: Early spring is often the period when adult stages are most frequently encountered in homes.

Ants: Foraging ants in homes are common until temperatures allow them to seek food outdoors.

Engraver (Ips) beetles: Major Ips beetle flights are likely to have started by this time and may threaten at risk spruce and pines.

Aphids on fruit trees: Spray oils on dormant trees to kill overwintered aphid eggs.

Cooley spruce gall: Controls are best applied before the insects make the egg sack in late April.

Borers: Remove and destroy damaged tree limbs and canes infested with borer larvae before insect emergence.

Honeysuckle witches' broom aphid: Prune out old, damaged terminals that contain eggs.

Denver billbug: Overwintered larvae may damage roots of turfgrass.

Turfgrass mites: Clover mites continue and banks grass mites begin to increase in droughty areas.

Sod webworms, cutworms: Damage to lawns by webworms and cutworms begin at this time.

Nightcrawlers: Tunneling activities and associated lawn lumps continue.

Midges: Non-biting midges emerge from ponds and mating swarms may be observed over lawns.

Cooley spruce gall: Insects continue development and usually begin to produce egg sack in late April.

Tent caterpillars: Early season species, mostly associated with cottonwood in low lying areas, should be rapidly developing.

Aspen is another common host.

Lilac/ash borer: Flights of adult moths may begin.

Spider mites on pines: *Oligonychus subnudus* populations may increase rapidly on ponderosa and other susceptible pines

Spiny elm caterpillar: Small colonies of these caterpillars may be seen on willow, hackberry, aspen, elm and other trees.

Poplar twig gall fly: Adults can be found resting on newly emerged and females insert eggs into developing stems.

Spider mites: Injury by Banks grass mite increases.

Clover mite populations should be decreasing.

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

Credits

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