

YELLOWJACKETS

OF NAPA COUNTY



**NAPA COUNTY
MOSQUITO ABATEMENT DISTRICT
P.O. Box 10053
American Canyon, CA 94503
Phone (707) 553-9610
Fax (707) 553-9611**

Website: napamosquito.org

GENERAL INFORMATION

Yellowjackets, commonly referred to as meat bees, are social wasps that live in colonies. They are often confused with bees. They are a more aggressive threat than bees. They do not have barbs on their stingers so they can sting more than once. They can also bite. In Napa County there are three aggressive pest species of yellowjackets. They are the Common yellowjacket (*Vespula vulgaris*), Western yellowjacket (*Vespula pensylvanica*), and the German yellowjacket (*Vespula germanica*). These species build their nests in underground holes, attics, and walls of homes. They can also build nests in rodent burrows, tree cavities or ground holes.

When a nest is disturbed yellowjackets can inflict multiple stings that are painful and may be life threatening to individuals hypersensitive to the venom. Unlike honeybees, yellowjackets do not leave a stinger imbedded in the sting site therefore they can sting numerous times. Stinging and injured yellowjackets release a chemical alarm pheromone that attracts other worker yellowjackets. This can cause additional yellowjackets to attack.

In the late summer months when yellowjacket populations increase they can create a nuisance in parks by scavenging for food from picnic and barbeque areas. They can cause structural damage to a home when they construct nests in walls or attics. Adults of some species are beneficial to man because they prey on flies and other insects.

Yellowjackets use vegetable fibers from trees and shrubs, chewed and mixed with saliva, to produce a paper-like material for nest construction. Inside the nest is a series of suspended combs that contain cells where young are reared. The combs are enclosed inside one or more layers of a paper envelope. The surface of the envelope is gray with tan and yellow stripes and has a scalloped texture.

Approximately 90% of the foraging done by the workers occurs within 400 yards of the nest.

Nests are normally located along fence lines, paths or ditches. One of the best ways to locate a yellowjacket nest is to go out very early in the morning and look for flight activity above the nest site. When leaving the nest for the first time the workers will conduct an "orientation flight". During this flight the workers use their eyesight to learn the location of the nest and the landmarks around it.

Yellowjackets live up to 30 days depending on their workload and the time of season.

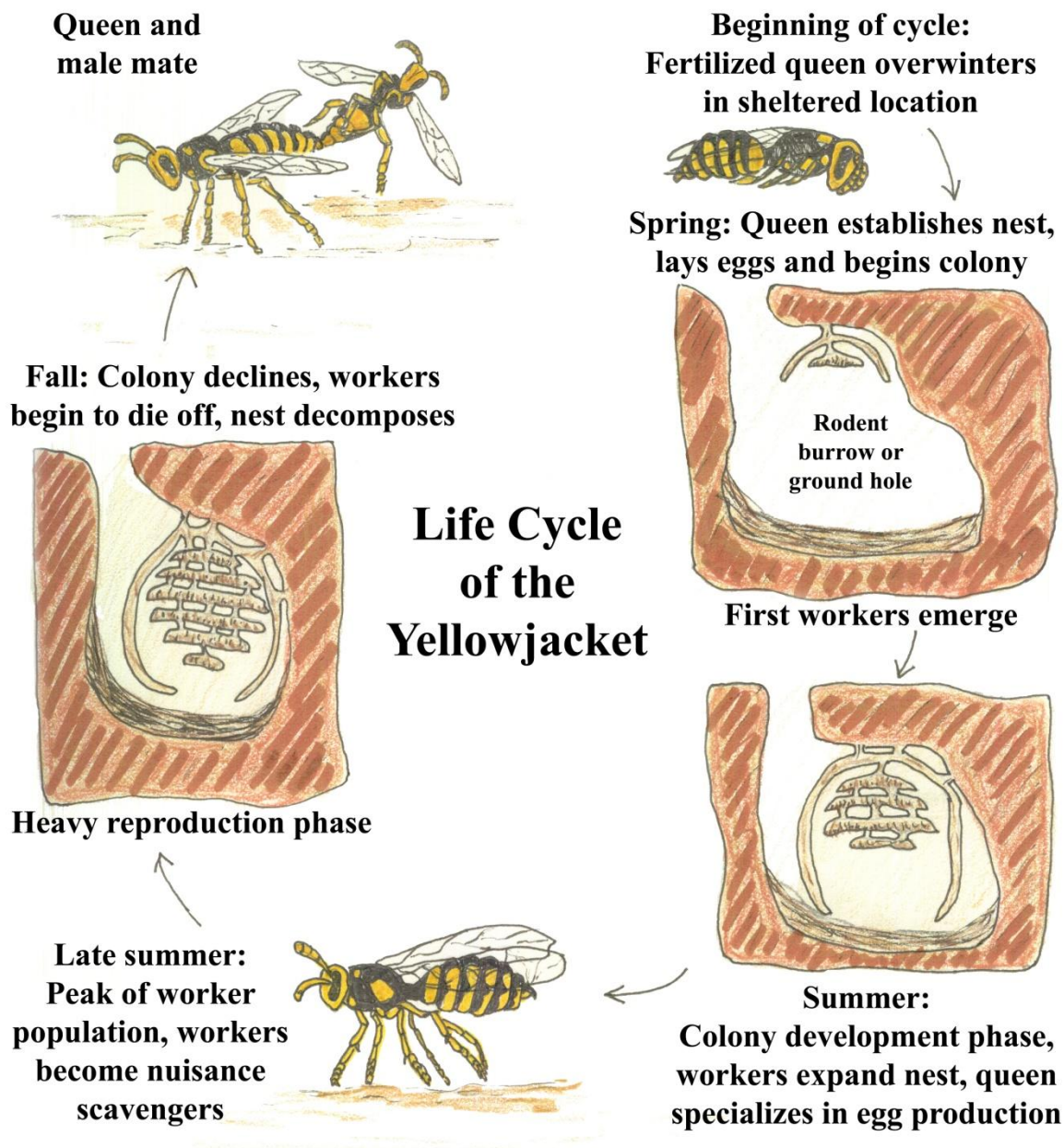
Adult yellowjackets feed mostly on items rich in starches and sugars, while the immature stages need the protein rich foods (insects, fish, bits of meat) brought

back by the workers. They carry this food back to the nest where they prepare it for their young by tearing it into pieces and chewing it. The workers gain nutrition from this process by feeding on the juices and the honeydew excreted by their young.



YELLOWJACKET LIFE CYCLE

Overwintering queens start yellowjacket nests. The queen digs an opening or enlarges an existing hole such as a rodent burrow or a ground hole and constructs a new nest. The queen will lay a few dozen eggs and nurture them until they mature. After the first dozen workers mature the queen will specialize in egg production while the colony expands. The workers will care for the larvae and pupae (immature wasps) and will feed and care for the queen. During the summer months the workers will reach their peak population. They are scavengers and will feed on various insects, fruits, meats, sweets, flies, and caterpillars. Yellowjackets will chew wood fiber, such as wood fencing, into a pulp to build their nest. The colony usually reaches its peak in late summer. At the end of the summer new males and queens are produced and mate for overwintering. The males and worker yellowjackets die off and the fertilized queen seeks a place to hibernate through winter. In the spring the cycle begins again.



COMMON YELLOWJACKETS

Western Yellowjacket (*Vespula pensylvanica*)

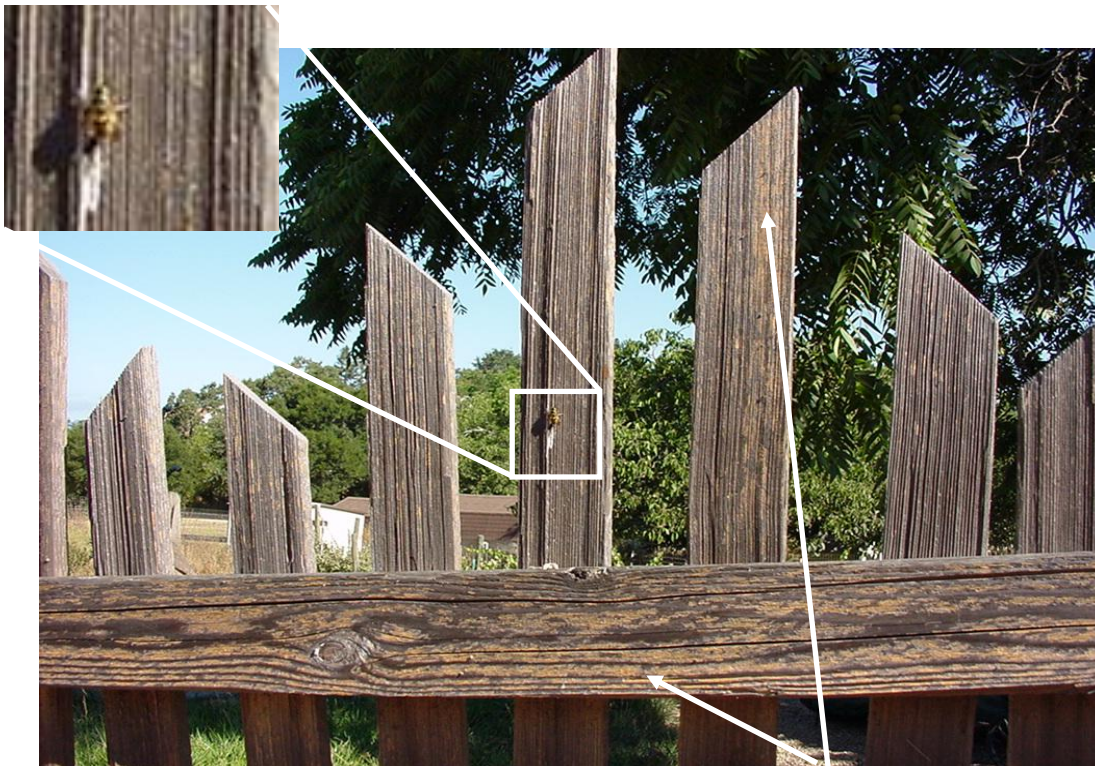
This yellowjacket is a major pest species in California. It is primarily a scavenger and in the summer months adults are common around garbage receptacles in picnic and barbeque areas. Nests are usually constructed in abandoned rodent burrows or in house walls and attics. Nests contain 500 to 5,000 workers and start to decline in late September to October.

Common Yellowjacket (*Vespula vulgaris*)

The common yellowjacket can be a pest because adults are attracted to protein or sugar sources. This species is also considered a beneficial organism because workers prey on caterpillars and other insects. Nests are mostly underground but can be constructed inside house walls or in aerial locations. Nests are large containing 500 to 5,000 workers and remain active as late as December.

German Yellowjacket (*Vespula germanica*)

This yellowjacket is not a species native to California, but has become established in some areas. Adults are scavengers and predators of other insects. It builds nests in hollow walls, attics or aerial nests. Nests constructed inside walls can cause damage to the interior of a home and can result in adult yellowjackets inside the house. Nests contain 500 to 5,000 workers and start to decline sometime between late September and December.



Fence damaged by yellowjackets chewing the wood to create pulp for their nests.

HOW WE CONTROL THESE PESTS

Destruction of yellowjacket nests is the most effective means of managing yellowjacket populations. To do this the nest must be located. Many times the property owner either inadvertently locates one or more nests or has observed unusual yellowjacket activity in a specific area of their property that assists us in

confirming the exact location of the nest. The assistance of the property owner is critical to the success of any yellowjacket eradication program. If the property owner is not sure about the location of a yellowjacket nest, district staff will conduct a search of their property for them. Once a nest location has been confirmed, district staff put on a protective bee suit and gloves, return to the nest site and place Drione®, a dry powered form of Pyrethrin, down into the nest. (Pyrethrin is an insecticide made from chrysanthemum flowers that is also commonly used on livestock and pets to manage other insect pests, including fleas.) Treatment of the nest with Drione® will usually kill all members of the nest within 48-72 hours.



Treatment of located nest with Drione® dust

OTHER COMMON WASPS

Aerial Yellowjackets (*Dolichovespula sp.*)

Aerial yellowjackets, make their paper nests in branches of trees, bushes, house eaves, or other places in the open air. They are considered beneficial because they only feed on insects. They can help control flies and other harmful insects like caterpillars and aphids. They can sometimes be confused with paper wasps, which are a less annoying species.

Bald or White-Faced Hornet (*Dolichovespula maculata*)

The white-faced hornet is a large wasp and is widespread throughout North America. It is black and white in color. They usually build their nests in trees or shrubs. By the end of the summer these nests can be very large. The adults are much larger than yellowjackets and have whitish markings.

Mud Dauber (*Sceliphron caementarium*)

This is a common wasp. Females build a mud nest of cells laid side by side usually in a series of two to six, on the sides and eaves of buildings. The adults are mostly black with a yellow waist and legs.

Blue Mud Wasp (*Chalybion californicum*)

This wasp is a “poor relative” of the Mud Dauber. The females use vacant mud wasp nests. They hunt on the ground, preying mainly on Black Widow spiders. Adults are metallic blue, blue green, or bluish black.

Cricket Wasps (*Chlorion sp.*)

This species harvests crickets from their hiding places and buries them in a simple nest in the ground. These adults are usually slender, metallic bright blue-green or blue with dark violet-tinged wings.

Digger Wasps (*Ammophila sp.*)

These wasps have a wide range of prey. They build simple, one cell vertical burrows and will use a rock to cover the entrance. The adults are very slender, have a long thread-waist, a black thorax marked with silver, and a gray or silvery abdomen with an orange or reddish tip.

Sand Wasps (*Bembix sp.*)

Can usually be found in sandy areas as their name suggests. The females build large tunnels and feed on flies. The adults are stout-bodied; gray or black with pale to bright yellow markings.

Spider Wasps (*Pepsis sp., Priocnemis sp.*)

As their name suggests these species feed on spiders. In California there are approximately 130 species that are mostly small and black or steel blue, with slender long legs and antennae.

Umbrella Wasps (*Polistes spp. and Mischocyttarus flavitarsis*)

Umbrella wasps are also commonly referred to as paper wasps. These wasps have been named umbrella wasps because their nests are the shape of an inverted umbrella. They usually have small nests and are usually inhabited by about 250 wasps. Unlike many other wasps and yellowjackets, Umbrella wasps do not have a worker caste. All female wasps are capable of becoming the queen.

Umbrella wasp nests do not have a paper envelope around them and are only a single comb. Umbrella wasps usually hang their nests in eaves, attics, and sheds. Knocking down the nest is a waste of time because the wasps will rebuild it. Therefore, the wasps themselves must be destroyed.

Paper Wasps build single layered open celled paper umbrella-like comb nests often inside buildings and are usually not aggressive but can sting if the nest is disturbed.

This group includes the **European Paper Wasp (*Polistes dominulus*)**, **Golden Paper Wasp (*Polistes fuscatus*)** and **Yellow-legged Paper Wasp (*Mischocyttarus flavitarsis*)**.



IF YOU DISCOVER A YELLOWJACKET NEST

- Avoid the area!
- Keep children and pets away from the nest.
- Do not disturb or try to remove the nest.
- Avoid loud sounds and vibrations near the nest.
- Even though your neighbor might suggest it, **DO NOT** pour gasoline or other flammable products into the hole.
- Notify your local Mosquito Abatement District, a pest control company or governmental authorities.



Yellowjacket entering underground nest

IF YOU ARE ATTACKED BY YELLOWJACKETS

- Leave the area quickly!
- Cover your face.
- Use clothes to protect your eyes and mouth from yellowjackets.
- Yellowjacket attacks can last until the victim vacates the area.
- Seek basic first aid if necessary.
- Watch for allergic reactions.

HOW TO KEEP FROM GETTING STUNG!

- Avoid wearing perfumes or other scented products such as sunscreen, deodorants, cosmetics, hairsprays, and brightly colored and patterned clothes.
- Avoid going barefoot, especially in vegetation.
- Avoid cooking and eating outdoors where yellowjackets are present.
- Do not swat at yellowjackets.
- Do not drink soft drinks from an open container. Keep lids on drinks.
- Keep foods covered.** Close or cover containers of meat or sugary foods.
- Check food before you put it in your mouth.
- Place all food waste in tightly covered garbage cans.
- Place traps far away from eating and gathering areas.
- Keep garbage cans away from picnic areas.
- Eliminate water sources like dripping outdoor faucets or standing pools of water.
- Contact your Mosquito Abatement District for assistance with the elimination of these pests.

FIRST AID FOR YELLOWJACKET STINGS AND BITES

- Yellowjackets rarely sting if they are left alone.
- Wash the sting with soap and water.
- Apply antihistamine or anti-itch medication, ice or cold cloth, or meat tenderizer to the bite for swelling and pain.
- Watch for swelling or hypersensitive reaction.
- For **allergic** reactions seek medical care immediately. Watch for difficulty with breathing or dizziness.
- If stung in the mouth or throat seek immediate medical care.