

The Yellowjacket Free Home

(Sting Free Yellowjacket Reduction)

Understanding the yellowjacket
lifecycle to trap and reduce nests
near you

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Portland Urban Beekeepers

Information presented here is gathered from online research and personal observation. It is intended to be distributed freely and used to help anyone rid their home or honey bee yard from **nuisance** yellowjackets.



Disclaimers

- I am an engineer, not a scientist.
- Information presented here is gathered from research online and **personal observation since 2004.**
- Information presented is not a true scientific study.
- Prior to keeping bees at home*, by understanding the lifecycle of the YJ, I had *nearly eliminated** nuisance nests near my home 80% of years.

* Yellowjackets still find our apiary despite my best efforts, but less than if I did nothing.

* *Nearly Eliminated* meaning that at the height of the season, we would rarely see a YJ in the yard, or at the BBQ...

Presentation Outline

- **Yellowjacket Identification**
- **Lifecycle**
- **Queen Markings**
- **Habits / Yellowjacket Food Sources**
- **Traps**
- **Bait Options & Poison Baiting**
- **Trap Tips + WHEN**
- **Nest Destruction Options**
- **Questions / Contact Information**

Why? Yellowjackets are beneficial!

Yes, they serve a purpose in the ecosystem.

They scavenge protein from dead animals and insects, they hunt other insects, and they are hunted by other animals.

But, there are other creatures that scavenge and hunt the same prey without being bad neighbors. Take a red light out to your garden or hives at night and look at all the other things that are scavenging.

Yellowjacket Identification

Predatory wasps of the genera *Vespula* and *Dolichovespula*. Members of these genera are known simply as "**wasps**" in other English-speaking countries. Most of these are black and yellow like the Eastern yellowjacket *Vespula maculifrons* and the Saxon wasp *Dolichovespula saxonica*; some are black and white like the bald-faced hornet, *Dolichovespula maculata*. Others may have the abdomen background color red instead of black. They can be identified by their ***distinctive markings***, their ***occurrence only in colonies***, and a ***characteristic, rapid, side-to-side flight pattern prior to landing***. All females are capable of stinging.

http://en.wikipedia.org/wiki/Yellow_jacket



European wasp

http://en.wikipedia.org/wiki/Yellow_jacket#mediaviewer/File:European_wasp_white_bg.jpg

(Not fuzzy and cute like a honey bee)



http://en.wikipedia.org/wiki/Yellow_jacket#mediaviewer/File:Vespula_0078.JPG



Worker (left), Queen (right) – Notice size difference
Photo by author



<http://www.thebeehunter.com/types-of-bees.html#yellowjacket-the-bee-hunter-pittsburgh>



http://www.pestcontrolcanada.com/INSECTS/bees_and_wasps.htm



Yellow Jacket

Distinct black and yellow bands with a pinched waist



Honey Bee

Orangish-brown pale, hairy-look with thick waist



Umbrella Wasp

Orangish-brown, long legs and wings, "threaded waist"



Bald-Face Hornet

Mostly black with whitish markings on face and "tail"



Bumble Bee

Mostly black with yellow markings, "plump" and hairy



Mud Dauber

Black with a metallic blue luster, markings, threaded-waist

Comparisons

Yellowjacket



Adult western yellowjacket.

Photo by Jack Kelly Clark.

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7450.html>

Wasp



Difficult to distinguish from a yellowjacket, this is most likely a European paper wasp. Like the yellowjacket, it has a smooth, bright yellow and black body with a well-defined waist and thin legs.

<http://www.gardeners.com/how-to/yellow-jackets/7700.html>

Paper Wasps

Great for the
garden, not
aggressive
toward people



Good example of a paper wasp and nest – often seen hanging under eaves or out hunting for insects in the yard. Their numbers do not increase significantly throughout the summer, and I do not consider them a nuisance. We often have nests with up to 2 dozen adults by our back door.

<https://sp.yimg.com/xj/th?id=OIP.M8f4c053a5f62960ad560b9fa6bb183a3o0&pid=15.1&P=0&w=300&h=300>

Other – unidentified, non-pest



This is one of a pair (male?) of unidentified wasps/mud daubers that lived on the south side of my home. Their numbers did not increase throughout the summer, and I do not consider them a nuisance.

I believe that “social wasps” are the term for wasps that gather in high numbers, and what I would consider a nuisance in urban areas or bee yards. Photo by author.

Hornet with honey bee “parts”



<http://en.wikipedia.org/wiki/Hornet>

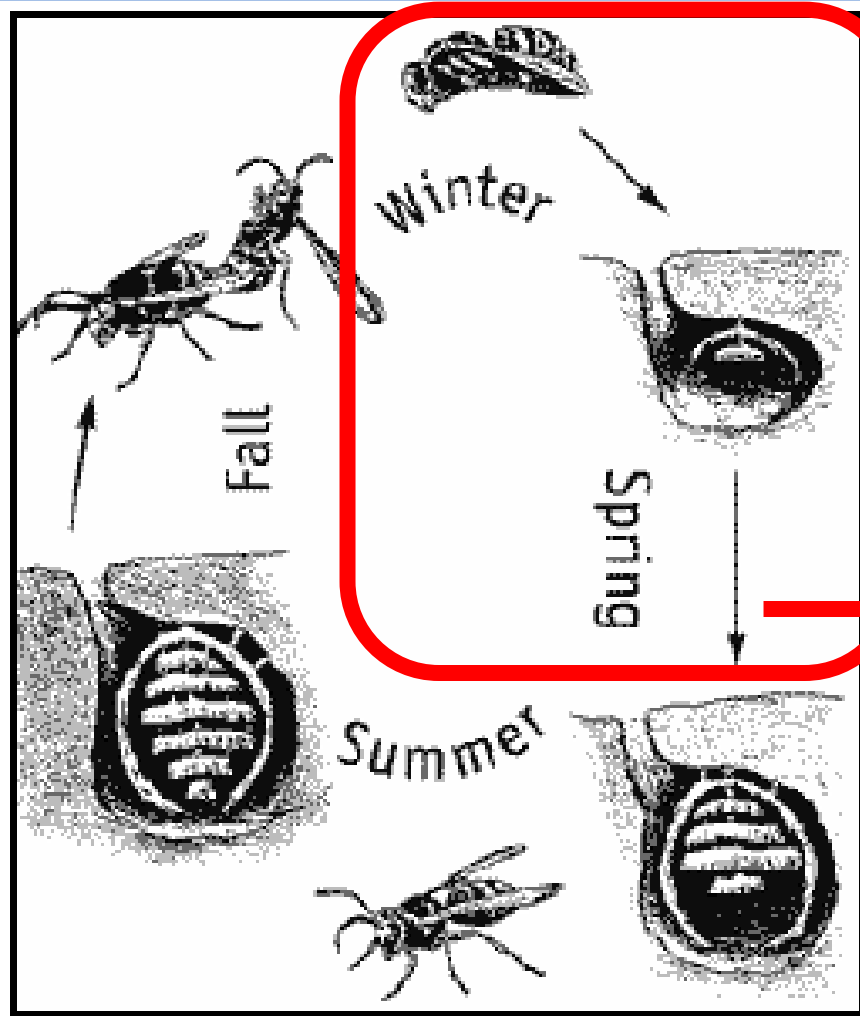


Mud daubers are black and yellow, thread-waisted, **solitary** wasps that build a hard mud nest, usually on ceilings and walls, attended by a single female wasp. **They are not social wasps** but may be confused with them. They do not defend their nests and rarely sting. During winter, you can safely remove the nests without spraying.

http://www.pestcontrolcanada.com/INSECTS/wasp_and_hornet_control.htm

(Author's note – move mud nest to a dry, protected area to continue their life cycle)

Life Cycle / “Sting Free” Yellowjacket Reduction

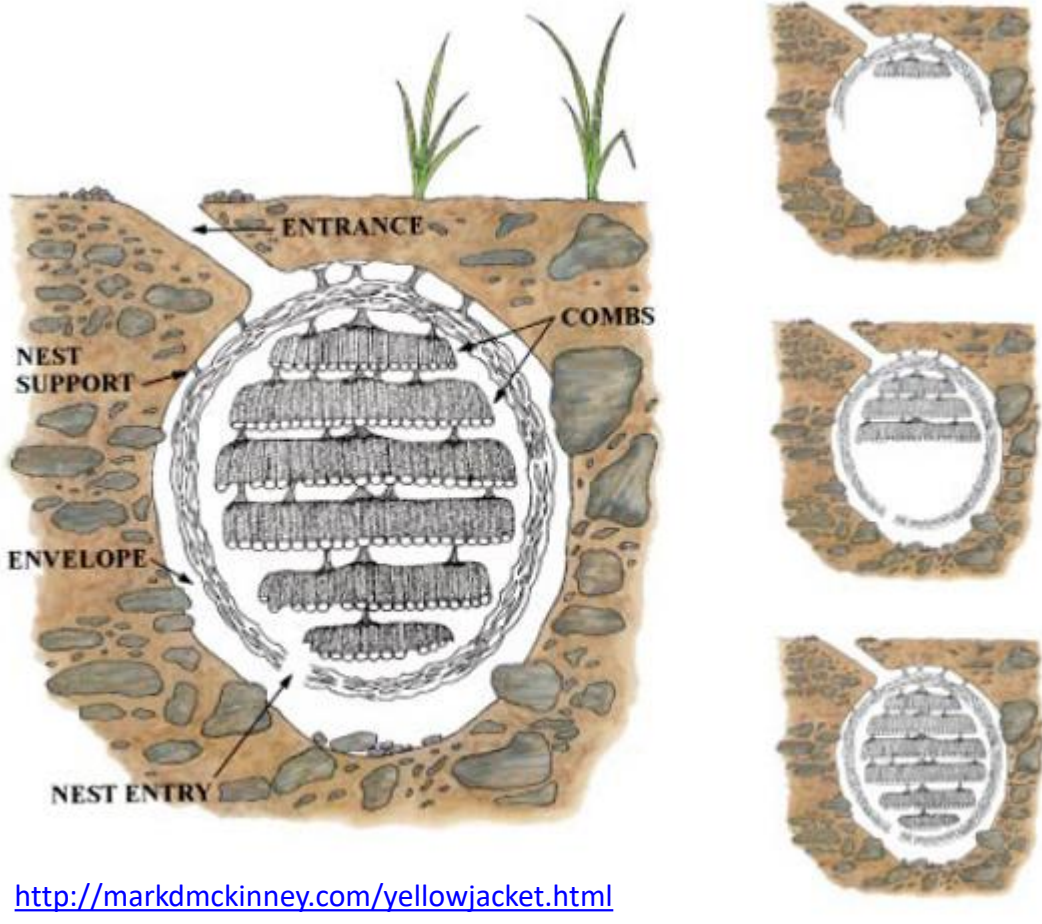


This is the key to keeping yellowjackets away – TRAP QUEENS WHEN VULNERABLE.

If you diligently bait and trap in the early spring, every queen you catch means the cycle ends here.

Brood will not survive without care, just like bees.

Hibernating queens typically have this form. "Smash with rock" is part of my overall mitigation plan.



<http://markdmckinney.com/yellowjacket.html>






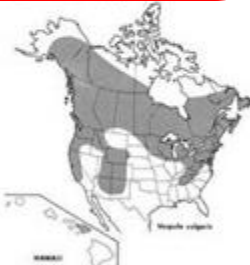



- Fertile queen hibernates through the winter in a sheltered space.
- Queen seeks a suitable nest site in the *spring* when temp is 50°F and above. *(If your bees are flying, the queens are flying)*
- *In 2015 I first saw queens hunting in early May.
- **Queens must start building the nest and rear the first generation of workers.**
- **Window of opportunity is about 4-6 weeks when the queen will be out foraging (April – May±).**
- Once first workers are able to forage, nest expansion continues and the queen stays inside.
- Later in the summer (when the nest is large) , the queen begins producing new queens and drones.
- In the fall/winter, **queens** leave the nest and seek a sheltered space to hibernate.

Why do yellowjacket nests grow so large when they are only going to die off in the fall?

- During a nest destruction in Oct. 2014, I collected just **over 100 queens from one underground nest.**
- They have a lot of drones and queens to raise.
- Queens must have enough stores to survive the winter.



Queen Markings

Common Western US Yellowjackets*			
SPECIES	QUEEN	WORKER	RANGE
WESTERN YELLOWJACKET <i>V. pensylvanica</i>			
COMMON YELLOWJACKET <i>V. vulgaris</i>			
FOREST YELLOWJACKET <i>V. acadica</i>			

*All abdominal & range graphics from discoverlife.org

These are the queens I find in the Portland, OR metro area – LOOK FOR THE DOTS ON QUEENS

On workers, the black dot is “merged” with the black band above it.

Queen Markings



LOOK FOR THE DOTS

Yellowjacket Markings

WORKER

*DRONE

QUEEN



*Drones – Curved antennae, long skinny abdomen

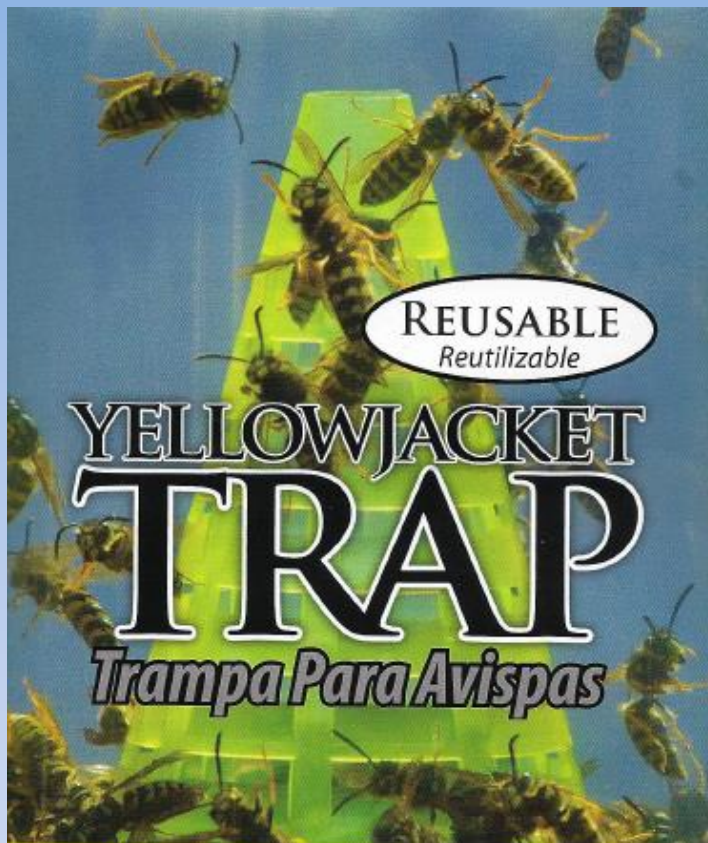
Habits / Yellowjacket Food Sources

- Workers collect “protein” by hunting and scavenging **to feed brood** via regurgitation
 - Hunting other insects, including bees
 - Scavenging body parts from dead insects, including honey bees
 - They orient on sources and will bring back friends
- Workers feed directly on nectar and will be seen on flowers
- Workers also are also fed in a symbiotic relationship with brood called trophallaxis - brood secrete a sugary substance when fed protein
- Workers collect wood pulp for nest expansion



Traps

- Commercially made – easy to use and clean
- Homemade – fun project potential for kids or those of us that do not want to grow up, lots of options on the internet
- “Caveman Method” - be aware of your surroundings, listen, watch yellowjackets, learn how they fly, watch where they scout, and **smash with rock** whenever possible



REUSABLE
Reutilizable

YELLOWJACKET TRAP

Trampa Para Avispas

NON-TOXIC MODE OF ACTION
MODO DE ACCIÓN NO TÓXICO

INGREDIENTS
Active Ingredient:
Heptyl butyrate99.8%
Other Ingredients.....0.2%
Total100.0%

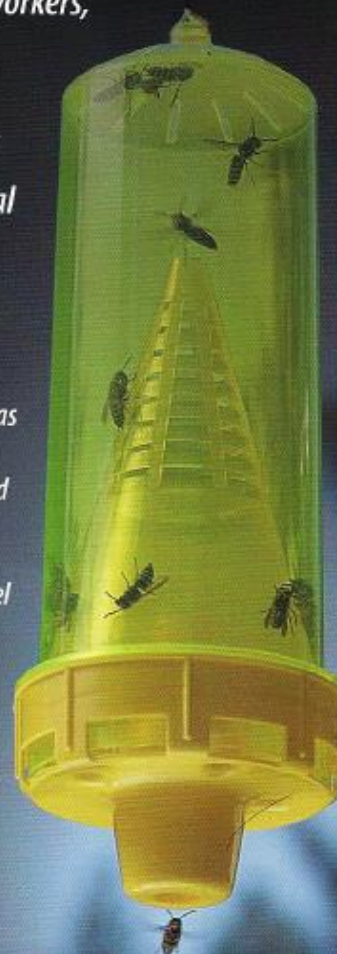
RESCUE
Making pest control smarter.®

Keep Out of Reach of Children • CAUTION • Net Wt: 0.05 oz

- *More effective than traps baited with food alone*
- *Lasts for weeks without daily maintenance*
- *Catches queens and workers, spring to fall*
- *No killing agents - insects die naturally*
- *Will not trap beneficial honeybees*
- *Attractant included*

- *Más efectiva que las trampas con comida*
- *Dura semanas sin necesidad de mantenimiento diario*
- *Atrapa reinas y obreras desde la primavera hasta el otoño*
- *No utiliza sustancias venenosas - los insectos mueren de forma natural*
- *No atrapa abejas benéficas*
- *Atrayente incluido*

www.rescue.com



This is the trap style I use most. Very versatile. It will hold a commercial **cartridge** with attractant that lasts 10 weeks, or you can use **commercial attractant** on a cotton ball (2 weeks), or another **protein source** (days). Easy to clean, and lasts for at least a few years.



I tried the disposable trap for the first time in summer 2014, and it was effective for a while on workers (not all summer). In following years I tried using it again and it **did catch queens**.



Wasp, Hornet & Yellowjacket Traps

Unless you have a confirmed problem with hornets, I would discourage the use of this combined “WHY” trap. *This is solely based on my observations of no hornets in my area.* I do not know enough about hornets to determine if they are a nuisance, and I do not like to trap insects that are beneficial.



I really enjoy this pair of insects that lived at our home last summer, and I would hate to find out that they were killed in one of these traps.



My Favorite “You Trap”

Gas plumber's torch - This works great to knock off yellowjackets that you see by your hives scavenging on bee bodies. (However, unless it is a queen, more will follow.)

Yellowjacket queens love to search the south (warm) side of our house for places to nest. If not possible to knock one down with my torch, I have also been successful in throwing a flannel jacket on them when near the ground, then beating it thoroughly with a rock or log until I think it is incapacitated enough to search through the wreckage and finish the job.

Bait Options

We are targeting yellowjacket queens (preventative) and workers (control), and both have one mission that consumes most of their day – feed the brood.

- Protein sources – try using what you have readily at hand, and/or canned meats
- Commercial baits – long lasting, less maintenance (I had no luck in 2014 with commercial bait, but good luck since 2015.)
- Commercial bait and/or raw shrimp worked very well for me since 2015.

A study done by UC Riverside found the following:

- *Swanson's® brand canned minced white chicken and Purina Friskies® Ocean Whitefish Dinner were consistently the most accepted bait bases tested.*
- *Intensive trapping with heptyl butyrate attractant can reduce the numbers of foraging yellow jackets, but **trapping alone will not provide area-wide control.***

http://www.pestboard.ca.gov/howdoi/research/2009_yellowjacket.pdf

Heptyl butyrate is the active ingredient in the Rescue brand commercial lures and bag traps.

Chicken worked well for a short time, then attracted flies.

Poison Baiting

Poison baiting involves careful application of a pesticide to appropriate bait in a secure trap.

The idea is that the foragers take the tainted meat to feed the brood, poisoning the brood, and in return the foragers.

Yellowjackets orient on food sources!



Trap Tips + WHEN

Placement of the trap:

Think like a Yellowjacket – what are they hunting for?

1. Place traps away from all human activity.
2. **Hang traps 2-4 feet above ground.**
3. Untreated wood fences attract yellowjackets! Source of materials and as a landmark.
4. Yellowjacket Traps should be baited and placed either early morning or late evening when the yellowjackets are least likely to be active.
5. **Place traps in sunny areas when temperature is below 80-85 degrees F.**
6. **Place traps in shaded area when temperature is above 85 degrees F.**
6. If Yellowjacket catch is low, relocate the trap. Leave trap in an area for at least 2 days.

Trap Tips + WHEN

Maintenance:

1. Before emptying traps, *make sure all yellowjackets are dead.*
2. If live yellowjackets are present, they must be killed before opening the trap by :
 - a. Pouring soapy water into the trap or
 - b. Placing entire trap in a freezer for 48 hours.
3. Trap should be emptied and cleaned every 3-4 weeks. Traps must be kept clean.

Hints: When fertilized females emerge from hibernation in early spring, she needs protein to nurse her young offspring. To start with she is doing it all until she can raise some workers.

http://www.pestcontrolcanada.com/INSECTS/wasp_and_hornet_control.htm

When Should I start trapping?

May in Portland is when I consistently see yellowjacket queens out hunting and scouting for a home.

However – This spring I saw and killed one while checking hives on March 11th

Nest Destruction Options

- Presentation coming later this year!
- Suit Up!
- Glass bowl and poison free spray is my preferred method for ground nests
- Red flashlights work well for night work
- Water/flooding methods may not work – have a backup plan!
- Burial of nest will cause workers to dig out!
- Sprays may need 2 applications over 2 or 3 days
- Honey Bee Allies – Swarm List priority note...

Glass Bowl Method 😊



Questions? Contact Information

- 7623785@gmail.com
- Email me for a copy of this presentation in PDF format
- Watch Facebook pages for PDF downloads (Portland Urban Beekeepers)
- Good hunting!