

# Friends of Tecolote Canyon

May 2021  
Volume 6, Issue 3

Header photo: Tecolote Canyon trail near Chateau Dr. and Genessee Ave.

## Inside This Issue

Dogs & Heat.....	2
City Nature Challenge.....	2
Nature Center Reopening Update.....	2
House Wren Poetry.....	3
Carrion...Yellowjackets..... (cont)...	2-3



## California Quail Poetry by Susan Breisch

I saw a shadow, a  
shape, a bird--a  
feathered flower.  
It wore two plumes  
like two banners.  
I had no sooner  
seen that vision  
than it vanished.



(Female) CA Quail  
photo source: AllAboutBirds.org

I was left in the evening dusk, and the  
solitude of the trail.

*California Quail is our state bird. Its scientific name, Callipepla californica, indicates that it is a beautifully adorned California bird.*



California Quail (Male)  
photo source: AllAboutBirds.org

## Carrion My Wayward Son:<sup>1</sup>

### Yellowjackets, the Pugnacious Plague of Pernicious Picnic Pests

by Jerry Jacobs



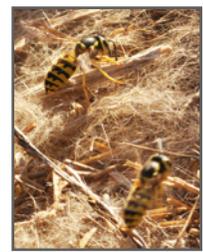
Western Yellowjackets partitioning a piece of flesh removed from a coyote carcass (killed by a car on Mt Acadia Blvd. near Snead Avenue.) Photo credit: Jerry Jacobs

**Have you ever been** enjoying an outdoor barbecue picnic, only to be visited by pesky, yellow and black wasps that try to steal bits of meat from your plate and/or crawl into your sugary soft drinks? If so, you've met one of our local wasps, the yellowjacket. There are about 15 species of yellowjackets in California, but only a few of these are attracted to human food. The most common picnic pest in our area is the [Western Yellowjacket](#) (*Vespula pensylvanica*), which is the subject of this article.

Wasps are members of the insect order [Hymenoptera](#), which also contains the ants, [bees](#), and [sawflies](#). Hymenoptera undergo complete metamorphosis ([holometabolous](#)), and their life cycle has four stages: egg, larva, pupa, and adult (as you also see in Butterflies, beetles, flies, lacewings, and several other types of insects).

Western Yellowjackets usually nest underground. In Southern California, they

are most often found in the abandoned burrows of [Botta's pocket gophers](#) (*Thomomys bottae*) or [California ground squirrel](#) (*Spermophilus beecheyi*). The nest is normally located 4-12 inches (10-30cm) from the burrow opening. If food is plentiful, they can make huge colonies, with up to 15,000 workers. The colony is composed of 3 different castes: queen, worker, and males. There is one



Western Yellowjackets searching for food on a coyote carcass.

queen per colony, and males are only produced when new queens are being produced. (Note: Males do not help maintain the colony, and their sole purpose is to mate with newly emerged queens. Not only do they not do any of the

colony maintenance, the males will often trick larvae into providing them with sugary rewards without feeding the larvae.) *continued on page 2*

The nests are papery, made from fibers collected from weather-worn (but not rotting) wood (such as fence posts and dead trees without bark), and fibers scraped from dead stems of various non-woody plants. Larvae are maggot-like and contained within open-ended, papery cells. Workers collect protein-rich food and carry it to the nest where they macerated the food to a pulp with their [mandibles](#) (mouth parts) and feed the hungry, larvae in their cells. The larvae reward the workers with a drop of sugary syrup from their mouths. As the larvae grow, they molt (shed their [exoskeleton](#)/"skin"), going through 5 [instars](#). Late during the fifth instar, the larvae seal the top of the cell with silk, and molt into [pupae](#). When [metamorphosis](#) is complete, the adult emerges from the pupa and chews its way out of the sealed cell to join the colony.

Worker wasps will collect a wide variety of prey, including slugs, spiders, [harvestmen](#), flies, caterpillars, grasshoppers, and [froghoppers/spittlebugs](#) to feed to the larvae. Most of the prey were Hemiptera ([true bugs/froghoppers/spittlebugs](#), etc.). They also scavenge protein from dead animals and are major pests at barbecues in some areas (they are particularly fond of salmon and other fish). They will also feed from ripe and/or fallen fruit and sugary sodas and other drinks. The workers forage within 1100 feet of the nest. The adults feed on sugary foods, such as nectar, while the protein-rich foods collected by the workers is mostly fed to the larvae.

Every 3-5 years, Western Yellowjackets have periodic population explosions and can cause severe problems with people logging, raising fruit or in recreation associated activities.

Unlike many wasps, they are attracted to the chemical lures used in commercial wasp traps.

Workers in the colony are all females (like in Honey Bees) and can sting (males do not have stingers, as the stinger is derived from the [ovipositor](#) which only occurs in females).



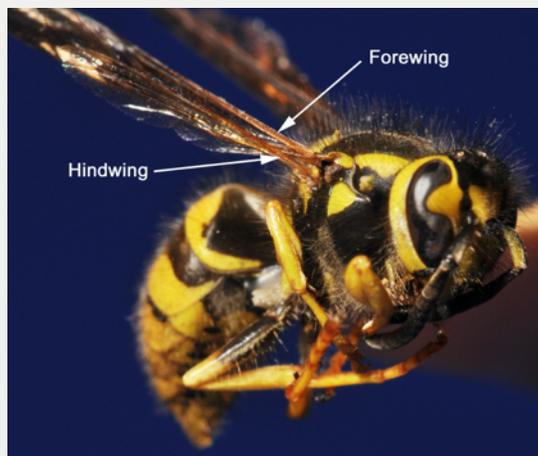
Western Yellowjackets worker on [Toyon](#) (*Heteromeles arbutifolia*).

The workers are sterile, and develop from fertilized eggs. In autumn, larger cells are created for new queens, and these cells receive more food than the worker cells. At the same time, the queen will lay unfertilized eggs which will develop into males. [Females are [diploid](#), males are [haploid](#)]. After the new queens emerge, they mate with the newly emerged males, then seek shelters (often in rotting logs or under the bark of dead trees) to overwinter. The old queen will die at the end of the season.

The nests are seasonal, and die out within a year, with only new queens surviving to the next cycle.

Colonies usually decline in late fall (or when it gets too cold, or the nest becomes overrun by nest parasites.) Also, since the queen only mates once (before overwintering) she will run out of sperm to fertilize worker eggs, limiting how long a colony can survive even in controlled conditions.

Wasps, and other Hymenoptera have 2 pairs of wings. In wasps (and bees), the two wings are connected with tiny hooks, and appear as a single pair of wings. If you look closely at a wasp, you can see where the two wings attach to the thorax (see figure). The flight muscles have to be warm in order for the wasp to fly, and on cooler days, a wasp will vibrate its wings on the ground to heat up the muscles. They will also vibrate their wings when they find a good source of protein-rich food, which allows them to fly faster.



Attachment of Western Yellowjackets wings to the thorax.

An interesting result of this heat dependence for flight is that when it is cool enough, wasps are able to walk but not fly. *Continued page 3*

## Tecolote Nature Center Reopening Update

By Marla Gilmore, Center Director

At this time, we are not scheduled to reopen. Tecolote Nature Center staff have been preparing and will be ready to open when given the green light.



[Wilson's Warbler](#) (*Cardellina pusilla*) photo by Niki Ahrens

Upon reopening, there will be safety restrictions and modifications to indoor and outdoor use. Specifically, the hours of operation will be modified, the classroom and library will not be available right away, and volunteering is on hold until further notice.

We thank everyone for their patience and hope to safely welcome you back soon.

## Dogs and Heat

Heat stroke is an emergency and requires immediate treatment. Because dogs do not sweat (except to a minor degree through their foot pads), they do not tolerate high environmental temperatures as well as humans do. Dogs depend upon panting to exchange warm air for cool air. But when air temperature is close to body temperature, cooling by panting is not an efficient process.



If the ground is too hot for your bare feet, it is too hot for your dog's foot pads! Your dog's foot pads will burn when exposed to hot surfaces including streets and trails. Please take extra care during extreme heat.

## City Nature Challenge 2021



There is still time to join the 2021 City Nature Challenge and contribute to San Diego's citizen science database and world standing. Join here at [iNaturalist.org](#) (30 Apr - 3 May).

## Thank You to Our Sponsors

SDG&E: A Sempra Energy Utility

Scott Chalmers & Filmetrics

Hilton San Diego Resort & Spa

Clairemont Town Council

Clairemont Times

City of San Diego

Many generous neighbor  
volunteers & donors



## House Wren

Poetry by Susan Breisch

Little round neighbor,  
all dressed up in feathery fancy,  
agile eyes sparkling  
and tiny tail cocked,  
always after your treasure.  
A wren's curiosity will pop out  
to investigate spring.

Its scientific name, Troglodytes aedon, this  
wren's name means cave-dwelling songstress.  
House Wrens really live in holes in trees or

backyard nest  
boxes.

Photo source:  
allaboutbirds.org



## About Friends of Tecolote Canyon



Friends of Tecolote Canyon is a non-profit  
community organization committed to  
sponsoring nature education and  
restoration activities in Tecolote Canyon  
Natural Park. Our education program,  
supported by SDGE's "Environmental  
Champions Initiative", is dedicated to  
bringing children into Tecolote Canyon and  
fostering connection through enjoyable,  
memorable, and meaningful experiences in  
our unique and precious local habitat.

Like us on Facebook/Friends of Tecolote Canyon  
[www.friendsoftecolotecanyon.org](http://www.friendsoftecolotecanyon.org)

Your donations are always appreciated  
and make our programs possible.  
You can donate to Friends of Tecolote  
Canyon at Tecolote Nature Center, or at  
our website:  
[www.friendsoftecolotecanyon.org/donate](http://www.friendsoftecolotecanyon.org/donate)

A biologist friend of mine was out early on a cool spring morning setting up mist nets for capturing birds. While clearing an area for the net, he suddenly started yelling, dropped his trousers, and started slapping his legs. He had been inadvertently standing on the opening of a yellowjacket nest, and while it was too cold for them to fly, the angry yellowjackets had crawled up his legs into his pants and were stinging him. Not a pleasant way to start a morning, but quite a "floor show" for those working with him.

[Striped Skunks](#) (*Mephitis mephitis* - our common local skunk) will dig up eat the wasp colonies. The skunks appear to be immune or very resistant to the wasp venom. They will even swat flying wasps defending the nest out of the air and eat them too.

Unlike honey bees, which die after they sting, female yellowjackets continue to sting as long as they can find a target. If you injure a yellowjacket, it will release an "alarm pheromone" which will quickly result in an aggressive, defensive behavior from other members of the colony.

The sting of the Western Yellowjacket is about as intense as the that of a [Honey Bee](#) (*Apis mellifera*), though with a different "bouquet". Justin Schmidt (author of *The Sting of the Wild*) describes the sting as "Hot and smoky, almost irreverent. Imagine W.C.



Head on view of a Western Yellowjackets worker on  
[Touyon](#) (*Heteromeles arbutifolia*).

Fields extinguishing a cigar on your tongue." Both the Honey Bee and Western Yellowjacket score a two on the Schmidt Pain Scale (The scale goes from 0 to 4, though the [Bullet Ant](#) (*Paraponera clavata*), from Central and South America scores an off the scale 4.5)

While yellowjackets can be annoying (and painful), they do have redeeming values. There are excellent predators of soft-bodied pest (such as caterpillars, flies, and small grasshoppers). You can often spot them hovering near plants trying to spot their prey. You can also sometimes spot them hovering in front of a nail in a fence, trying to decide if it is food...being brilliant is not a

prerequisite for being a wasp. They are also important in the break down of decaying animals, sort of like mini-vultures.

References and Further Reading:

[Vespula pensylvanica - Western Yellowjacket — BugGuide.net](#)

[Vespula pensylvanica – Western Yellowjacket — Canadian Journal of Arthropod Identification](#)

Akre, R.D. (1981). *The Yellowjackets of America North of Mexico*. U.S. Department for Agriculture, Science and Education Administration. Washington, DC.

Bobart, R.M., and Bechtel, R. C. (1957). *The Social Wasps of California* (Vespinae, Polistinae, Polibiinae). *Bulletin of the California Insect Survey* 4(3):73-101;

MacDonald, J. F., Akre, R. D., and Hill, W. B. (1974). Comparative biology and behavior of *Vespula atropilosa* and *Vespula pennsylvanica* (Hymenoptera: Vespidae). *Melanderia* 18:1-66.

Powell, J.A., and Hogue, C.L. (1979). *California Insects*. University of California Press, Berkeley, CA. pp 339-340.

Schmidt, J.O. (2016). *The Sting of the Wild*. John Hopkins University Press, Baltimore, MD.

<sup>1</sup>A malapropism of the song title "[Carry On My Wayward Son](#)" from the 1976 Kansas album "[Leftoverture](#)". The song was considered the unofficial theme song of the TV series [Supernatural](#). [NOTE: I'm probably showing my age here.]