



August/September 2023

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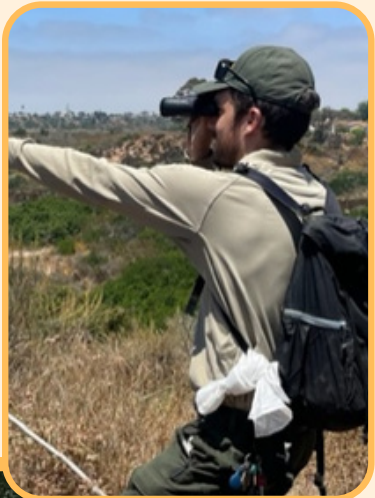
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Welcome to our newest Tri-Canyon Parks team member, Park Ranger Austin Lane.

Austin thrives on adventure and clean air. His professional interest include patrolling trails, restoring habitats, and educating the public about San Diego’s natural spaces. His background includes multiple seasons working as a wilderness ranger in the Sierra Nevada mountains. Outside of work Austin enjoys surfing, rock climbing, and backpacking. Look for him next time you are hiking on one of Tri-Canyon’s trails!

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.

If you would like to donate to Friends, visit:
www.friendsoftecolotecanyon.org
 or text “Explore” to (858) 422-0109
 Thank You!



HOT ASPHALT!

Air Temperature	Asphalt Temperature
77°	125°
86°	135°
87°	143°

At 125° skin destruction can occur in just 60 seconds. Always check the asphalt prior to allowing your pet to walk on it.

PAWS WILL GET BURNED

Tip: If it's too hot for your bare feet it's too hot for theirs!

Many of us don’t realize how hot the asphalt and concrete can get during these hot days. When it’s over 100, the asphalt temperature can reach to over 200 degrees! The pads on the paws can burn extremely quickly. To make sure the ground temperature is cool enough for your dog to walk on, press the back of your hand onto the concrete/asphalt for 7 seconds, or try to walk barefoot with your dog.

Coolin' the Gang...

Refrigeration—Let's all refrigerate and have a cool time...

By Jerry Jacobs



Figure 1 - Honeybees drinking from a water dish. In Tecolote Canyon, San Diego, CA. NOTE: A Western Yellowjacket is visible drinking at the upper part of the photo. Photo by Author.

On hot days, you may have noticed honey bees congregating at the edges of pools of water and bird baths (see Figure 1). This happens because honey bees need to keep the nursery portion of their hive between 33° and 36°C (91° to 97°F).² If the temperature is in the nursery is above 37°C (98.6°F), the larvae (baby bees) will die. When the hive gets above about 23°C (72°F), honey bees will begin fanning the hive with their wings to create air currents.² As the temperature climbs above 33°C (91°F), the bees will begin drawing out water into a film, with their tongue ("tongue lashing"), for rapid evaporation which cools the hive.² If the temperature continues to rise, more bees will be recruited for "tongue lashing" to keep the nursery at the proper temperature. ²

There are groups of bees within the hive that normally always stay within the nest (storing honey and tending the larvae), and there are other bees that leave the hive to forage.³ Of the foragers, there is a special class which is the water collectors.³

[1] Lyrics mangled from the Kool and the Gang Song "Celebration" from 1980.

[2] Seeley, T.D. (1985). **Honeybee Ecology: A Study of Adaptation in Social Life**. Princeton University Press, Princeton, NJ. 201pp.xt

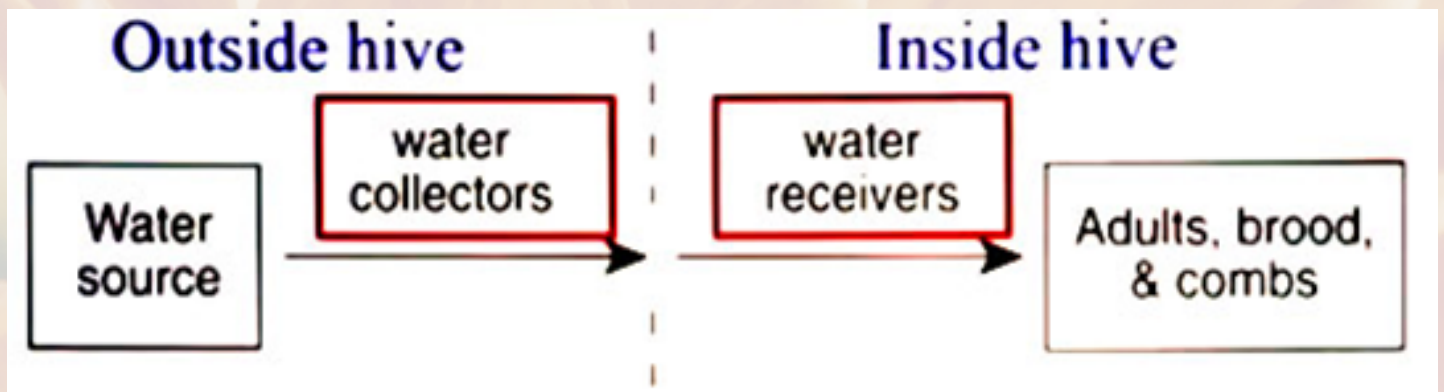


Figure 2 - Diagram of the process of water collection for a honeybee hive. (Modified from Seeley, 2017[1])

When the hive is cool and conditions are relatively moist, the water collectors spend a lot of time waiting on call (like firemen waiting for the fire alarm). When the hive starts to warm up, or get dehydrated, the water receivers (within the hive) start begging for more water (sounding the alarm), so the water collectors have to leave the hive to head to their water source³(see Figure 2). At the water source, the water collector bees pump water into their crop and fill it with about 50 microliters of water³. This may not sound like much, but the weight of that amount of water is roughly equal to the weight of the "empty" bee, so they are twice as heavy when they leave their water source (imagine being twice as heavy as you started when you pushed your self away from the Thanksgiving table! See Figure 3)³

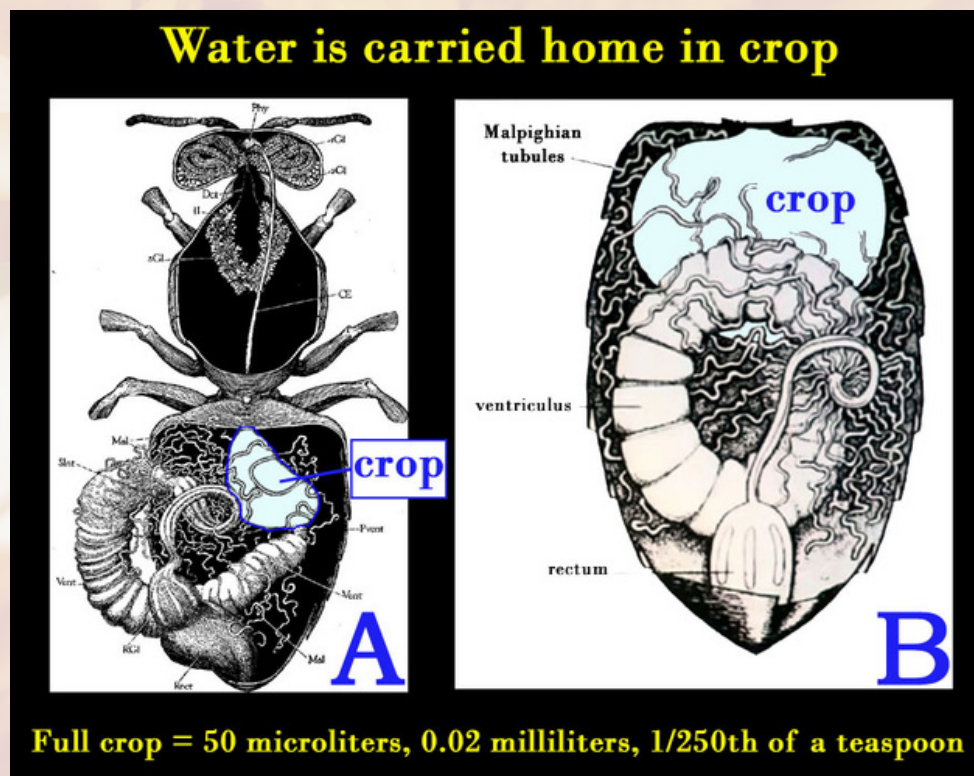


Figure 3 - Location of the crop in the abdomen of a honeybee. The crop is at the beginning of the digestive tract in the abdomen and used to store water or nectar for later regurgitation. (A) Size of the empty crop (Modified from Snodgrass, 1910⁴). (B) Size of the crop when filled with water (Modified from Dade, 1962⁵).

[3] Seeley, T.D. (2017). The Thirst of a Hive: How Does a Honey Bee Colony Control its Water Intake? Lecture given at the 2017 National Honey Show. Available on YouTube: <https://youtu.be/bb5cowu-NZI>

[4] Snodgrass, R.E. (1910). The Anatomy of the Honey Bee. Government Printing Office, Washington, D.C.

[5] Dade, H. A. (1962). Anatomy and Dissection of the Honeybee. London: The Bee

The water carrier bees then heads back to the hive where they pass their water to the water receiver bees within the hive³ The water receivers wander through the hive, giving drinks to bees that ask for water, and also check out brood cells to see if they are too warm.³ When they find a brood cell that is too hot, they smear a thin layer of water around the inside of the cell near the opening.³ As this water evaporates, it lowers the temperature of the cell. If the cell temperatures get too high, the larva will die.³ The water receiver keeps moving through the hive, dishing out drinks and cooling cells till they run out of water, then return to the hive entrance for more water from the water collectors returning to the hive.³

The water collector bees are separate from the nectar collector bees, so collecting more water does not effect how much nectar is collected³ Water collector bees tend to return to the exact same spot each time to collect their water, returning the same twig, stone, or piece of moss.³ Collecting water is a fairly dangerous operation , and the bees are often knocked into the water by wayward waves or gusts of wind (on just plain clumsy behavior) and drown³. Younger bees (<20 days old) tend to be workers within the hive, and older bees (>20 days) tend to be the outside workers like the nectar collectors and water collectors.³

Honey bees currently roam all the continents of earth, except Antarctica.⁶ This wasn't always the case, as they were absent from the new world until they were introduced by humans from Europe in the 1600's for the production of honey.⁶ Our honey bees are known as the Western Honey Bee (from the western part of Eurasia) or the European Honey Bee (*Apis mellifera* – which roughly translates to "Bee bearing honey"⁷).

Honey bees are not native to San Diego, and were not brought to California till 1853,⁸ about a decade before the Civil War.⁹ (NOTE: While honey bees are not native to San Diego, we have over 650 species of native bees. Unlike honey bees, most of our native bees are solitary and do not form large hives, and none produce honey for harvesting).

[6] Sealey, T.D. (2019). *The Lives of Bees: The Untold Story of the Honey Bee in the Wild*. Princeton University Press, Princeton, NJ. 353pp.

[7] From Latin: *apis* = bee, *melli* = honey, *fera* = bearer or carrier.

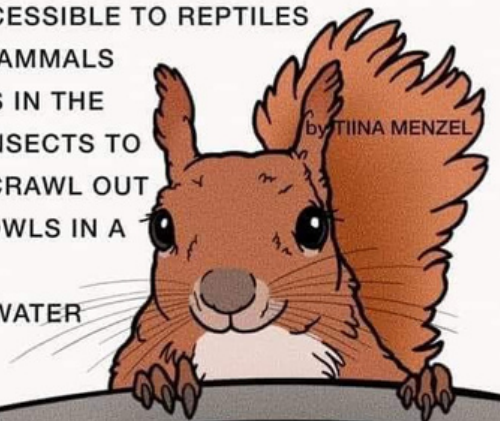
[8] Watkins, Lee H. (1968). California's first honey bees. *American Bee Journal*, 108(5): 190-191.

[9] Hung, K.-L.J., M.G. Rightmyer, M. Wall, J. Berrian, J.S. Ascher, D. Yanega, J.A. Davids & D.A. Holway. 2020. An annotated checklist of the bees (Hymenoptera: Anthophila) of San Diego County, California.

UC San Diego Library Digital Collections. URL: <http://dx.doi.org/10.6075/JOPN93HK>

PLEASE PUT OUT WATER FOR WILDLIFE ON HOT DAYS

- YOU CAN USE SHALLOW BOWLS AND SAUCERS
- PLACE THEM ON THE GROUND, SO THAT THEY ARE ACCESSIBLE TO REPTILES AND SMALL MAMMALS
- LEAVE STONES IN THE BOWLS FOR INSECTS TO LAND ON OR CRAWL OUT
- PLACE THE BOWLS IN A SHADY SPOT
- CHANGE THE WATER EVERY DAY



THANK YOU!

Bee, Butterfly, and Reptile Watering Station

Be sure to limit the amount of open water to prevent drowning.



San Diego Native Plant Society

~ Propagation committee

PROPAGATION covers all aspects of growing native plants in a nursery setting, with the goal of planting healthy, thriving new plants into gardens or restoration sites so wildlife and biodiversity can thrive. Our committee can also grow native plants for our Plant Sales, contributing mightily to the sustainability and resilience of the Chapter's fundraising efforts.



Justin from SDNPS explaining the art of repotting seedlings



There are many locations that grow native plants in the County. Our San Diego Chapter's primary nursery hub is the Tecolote Nature Center's native plant nursery in Bay Park where we learn, share, experiment, and apply guided methods known to improve success of sometimes challenging plants to grow. Plants grown here are used for restoration projects around San Diego's canyons and Open Spaces in concert with the City Rangers volunteer programs. We also provide specific resources and cultivate dialogue on improving CNPS member goals for growing plants at home.

We utilize methods adapted for San Diego as well as the state wide CNPS STRATEGIES for Horticulture Science.

Learn to grow your favorite natives in an a collaborative way alongside some of the most accomplished native plant growers in the County!

GET INVOLVED!

Join our email list at propagation@cnpssd.org to get updates on twice per month meetings. Check out our [calendar for general announcements and dates!](#)

Start plants from seeds, cuttings, & transplanting. Discuss soil mixes, irrigation and watering, nursery layout, best management for health, plant ID, seed collection, & mulch more!





Red-shouldered Hawk taking down a Cottontail rabbit. Notice the Northern Mocking Bird mobbing the Hawk as it takes off. Photo Credit Laura Wojtysiak.



In April, Cassidy White received the Presidential Silver Award from the city of San Diego for volunteering 180 hours



One of the participants at our nature play and crafts day found a leaf with a lady bug on it. Upon closer inspection we found a monarch caterpillar on the stem. Pretty exciting find!

Volunteer Opportunities ~ Something for Everyone!

Jr Volunteers (community service)~ Native Plant Garden ~Tecolote Canyon Advisory Committee ~Weed Warriors
Environmental Stewards Canyon Program (ESCAPE)Docents ~ Interpretive Guides ~ Art & Crafts
Nature Center Hosts ~ Park Patrol

If you are interested in volunteering, we welcome you to come in and speak with any staff member.

Thank you to our sponsors

SDGE: A Sempra Energy
Utility
Scott Chalmers
Clairemont Town Council
City of San Diego
Many generous
neighbor volunteers and
donors



Please consider joining our Meetup.com group Friends of Tecolote Canyon and Nature Center as another way to stay connected with our events and the events of our nature loving partners. TCCAC meets at 6:30pm on the 3rd Wednesday of every month at the Nature Center. For more information about TCCAC you may contact Darrel Madison at at darrel.madison@outlook.com

Tecolote Nature Center

5180 Tecolote Road
San Diego, CA 92110

Hours of Operation*
Wednesday–Saturday
10:00am–4:00pm
Closed Sunday–Tuesday
Occasionally when
understaffed the
center may close on short
notice
The garden, patio, and
outdoor
restrooms are open
everyday.

Canyon Restoration

First Saturday of every month from 9:00-11:00

We host a volunteer restoration project in partnership with San Diego Canyonlands. This opportunity usually consists of weeding and watering the native plants in our restoration sites along the main trail and planting new plants as needed. Folks can sign up on the San Diego Canyonlands website calendar, or just show up on the day of. An RSVP to Ranger Austin (alane@sandiego.gov) is helpful. We suggest folks park in the neighborhood at Gardena Avenue and Cross Street, and follow the signs to the site.

We will take a break from any canyon clean ups in the month of August due to the heat.

Bird Walks

Audubon bird walks will re-start in **September on the 4th Saturday at 8:00am** and will continue each month through June. They meet at the Tecolote Nature Center. Audubon takes a break in July and August. You can visit their website at: <https://www.sandiegoaudubon.org/>

Sunday Aug. 6th 8:00am ~ Beginning Birders Meetup with Trent Robertson

We will be birding Rose Canyon from the Regents Rd. trailhead (where Regents rd. dead-ends north of Governor Dr.) We will be looking for summer migrants such as Chats, Orioles, and Tanager as well as our usual resident species. Please bring binoculars and good walking shoes.

You can RSVP at: <https://www.meetup.com/the-san-diego-beginning-birders/events/295116624/>
A \$1 donation is requested to defray meet-up charges.