

Desert Dwellers

Volume 11, Issue 38

May 2008

Those busy little Pollinators

Bees



With so much bee activity around the neighborhood this spring, it seems like a good time to write about these fascinating and most important pollinators. Approximately one-third of our food supply depends on the activity of bees to pollinate the crops, and so many non-food products, like cotton and medicines, are also dependent on members of the order Hymenoptera, in the phylum Arthropoda. The majority of plants cannot reproduce without pollinators, and bees are by far the most important of all pollinators. Bees couldn't care less about our food supply, or about the production of seeds. They are providing for their own survival.

While most people think first of honeybees, they are not native to North America but were introduced from Europe. Honey bees have a fascinating and highly organized social system. Essentially, there are three castes, to which all bees in a hive belong - Queens, Drones and Workers. Each hive contains only one queen and it's her job to make more bees. She can lay up to 1500 eggs per day and can live from 2 to 8 years. Drones are males and thus have no stinger. They, too, have only one function, and theirs is to mate with the queen. Life is short for the drones - only about eight weeks. Worker bees, wouldn't you know, are all females, and sterile ones at that. They comprise the majority of bees in a hive and have different jobs depending on their age. Younger workers are called house bees and are the ones who do the comb construction, brood rearing, cleaning, temperature regulation, hive defense, and tending to the queen and drones. Older workers go out and forage for food and are called field bees. They locate and bring the pollen and nectar back to the hive. Foragers must collect nectar from about 2 million flowers to make one pound of honey. The average forager makes about 1/4 teaspoon of honey in her lifetime.

Worker bees have a barbed stinger which rips out of the abdomen after use, thus killing the bee. Bees use a form of chemical communication known as pheromones to coordinate hive activities. An average beehive may contain as many as 50,000 bees.

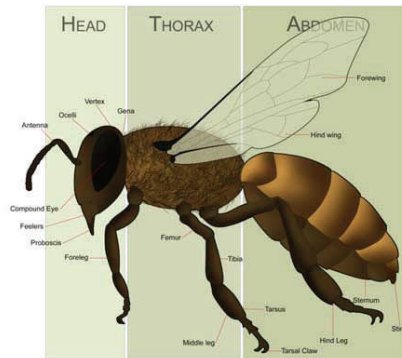
AFRICANIZED BEES

So, this is all very interesting, you say, but what about those 'killer' bees? Those are nothing more than European honeybees that have hybridized with the African variety of honeybee. In an effort to improve the honey production and hardiness of captive bees, a Brazilian bee researcher brought the African variety to Brazil in 1956 and bred them with the European variety. Inevitably, some of the bees escaped and began freely hybridizing and reproducing.

The aggressive traits of the African bees dominates the hybrids. The march north of the hybridized bees began in 1957 and continues today. First discovered in Arizona in 1993, the Africanized Honeybees (AHB) now have hybridized with all honeybees in Arizona.

How they differ from European Honeybees:

- More frequent swarms. A swarm is a group of bees that is forming a new colony. While EHB hives will swarm once every 12 months, the AHB may swarm as often as every 6 weeks, with perhaps a couple of swarms each time. If you see a swarm in a tree or other structure, it is likely to be resting before moving on to find a nesting site. Individual foragers or bees in a swarm are not likely to sting.
- Aggressive defense of the nest - AHBs are far more aggressive in defending their nest and will defend it from a greater distance. Bees will respond to a distur-



Honeybee (*Apis mellifera*)

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bance from people, animals or power equipment as much as 50 away from the hive. More bees come out to defend the nest, they get agitated sooner and stay agitated longer.

- AHBs are far less discriminating about their nesting site. Places such as water meter boxes, metal utility poles, cement blocks, junk piles, house eaves, sheds, holes in the ground and tree limbs, attics and mail boxes have been known to serve as nest sites.

You may inadvertently disturb the bees when you come too close to the hive. It is good to remember that light-colored clothing will not be as attractive to bees as dark-colored.

What to do if you are attacked by honey bees:

- Run away as quickly as possible, and keep going.
- Cover your face, if necessary raising your shirt to do so.
- Continue to run until you reach shelter - a car or building.
- Do not swat or flail your arms. This will attract more bees.
- Do NOT jump into water. Bees will wait for you to come up.
- Once you are safe, remove all stingers by scraping them out sideways with a credit card or fingernail. Do not pull the stinger out as this will inject more venom into the wound.
- Call 911 to report a serious attack. You may need medical treatment if you have been stung numerous times, are feeling ill or if you are allergic to bee stings.

BEE PROOFING YOUR BUILDINGS AND YARD

- Remove potential nesting sites, which might include buckets, cans, empty boxes, old tires, or any container ranging in volume from as little as 2 to 10 gallons and more. Bees will also choose infrequently used vehicles, lumber piles, holes and cavities in fences, trees, and the ground, in sheds, garages, and other outbuildings between walls or in the open, low decks or spaces under buildings.
- Inspect walls and eaves of your house and all outbuildings.
- Seal openings greater than 1/8-inch in walls, around chimneys, plumbing, and other openings.
- Install screens (1/8-inch hardware cloth) over rain spouts, vents, cavities of trees and fence posts, water meter/utility boxes, etc.

- From spring through the fall inspect once or twice per week for bee activity around your house and yard.

If you discover a hive of Africanized bees on your property, DO NOT ATTEMPT TO REMOVE THEM YOURSELF. CALL A PROFESSIONAL - EITHER A BEE KEEPER OR EXTERMINATOR.

NATIVE BEES

Although honeybees are so important for us, there are hundreds of native bees that are particularly important for native plants in North America, including many different kinds of solitary bees that specialize in different species of cactus. The region around Tucson is thought to have more kinds of native bees than perhaps anywhere else in the world. Desert bees differ from the highly social honeybees by being primarily solitary, and by burrowing in the ground for their brood cells. Female bees of all types make their living by foraging for nectar and pollen in flowering plants. As with honey bees, it is only the females who are capable of stinging.

Some of our native bees include:

Bumblebees (*Bombus sp.*) - very large bees, some over an inch long which are covered with dense yellow and black bands of hairs. Although they are social nesters, they do not have the highly ordered society of honeybees. A new nest is made each spring by solitary queens, often in an abandoned field mouse nest.

Cactus Bees (*Diadasia sp.* as well as several other genera) - This is not one type of bee, but a general category of bees that specialize in collecting nectar and pollen from cactus flowers. Most, like our common cactus bee (*Diadasia rinconis*), are ground nesters, and though they are considered solitary they nest in large aggregated sites which may number in the hundreds of thousands of individual nests.

Carpenter Bees - Another very large bee with a dark, shiny abdomen. The female makes her nest by tunneling into wood, including the dead flower stalks of agave and sotol or perhaps the beams of your house. It can be disconcerting to have this huge bee buzz by your head, but the males cannot sting and the females are quite docile.

Sweat Bees - small, metallic-colored bees which are solitary ground nesters. They are attracted to water (or

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sweat), but their food is the normal pollen and nectar.

Leaf Cutter Bees (*Megachile sp.*) - If you've noticed little rounded holes in the leaves of your plants, you are seeing the work of leaf cutter bees. The plant parts are used to build their nests in dry, protected areas. Leaf cutters are far better pollinators than honeybees, one bee doing the job equal to 20 honeybees, using a brush of hairs on the underside of the abdomen rather than pollen baskets on their legs.

Mason Bees (*Osmia sp.*) - Also good pollinators like the leaf cutters, these solitary bees make nests in the aban-

doned tunnels of wood-boring beetles. After laying an egg and provisioning it with enough food to feed the larva to adulthood, the female closes the cell with mud, repeating this process until the tunnel is completely filled and then capping it with mud also.

In closing, I want to emphasize that bees are highly complex creatures that perform many important and desirable functions. I wish to leave you with a sense of wonder, respect, understanding and tolerance rather than fear and loathing. Educating yourself on potential dangers will help keep you and your family safe.

Carole DeAngeli

References

1. Phillips, Steven J., and Comus, Patricia Wentworth, eds. *A Natural History of the Sonoran Desert*, Arizona Sonora Desert Museum, Arizona Sonora Desert Museum Press, 2000
2. U.S. Department of Agriculture, Agricultural Research Service, Carl Hayden Bee Research Center, <http://www.ars.usda.gov/Research/>
3. Great Plains Nature Center, 6232 E. 29th St. North, Wichita, KS 67220-2200, Jim Mason, <http://www.gpnc.org/honeybee.htm>
4. The Biological Information Office of the U.S. Geological Study, National Biological Information Infrastructure, <http://pollinators.nbi.gov/>
5. Desert Ecology of Tucson, Arizona, Pima Community College, http://wc.pima.edu/~bfiero/tucsonecology/animals/arth_hobe.htm
6. Desert Discovery, The University of Arizona, Dr. Katrina Mangin, <http://desertdiscovery.arizona.edu/cactus.html>
7. Texas A & M University, Department of Entomology, <http://honeybee.tamu.edu/about/index.html>
8. My thanks also to Elizabeth Bernays, our neighbor and retired Professor of Entomology, University of Arizona.

NEIGHBORHOOD WATCH

Please **DO NOT HESITATE TO CALL 911**
IF YOU SEE SUSPICIOUS ACTIVITIES!

An officer will respond and will also phone to tell you the results, if you request this information.

Area Leader
Carolyn Hoenig
887-3815
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Oracle Foothills Neighborhood Association Financial Statement 2/4/08—4/28/08

Balance Forward	\$12223
Income	100
Expenses	736
<hr/>	
New Balance	\$11587

Details are available to all members from the Treasurer,
Jay DeAngeli

Phainopepla

The shiny all-black body and conspicuous crest make this beautiful desert bird instantly recognizable. White wing patches are visible only in flight, and be sure to check out the red/orange eye! The females and juveniles are a dusky gray color with pale wing patches. Although they are in the family of Silky Flycatchers (Ptilonotidae), the phainopepla's preferred food is the berry of the desert mistletoe. Any berries will do, however, and insects make up the rest of the diet. In the hotter months most phainopeplas will migrate to higher, cooler elevations and return in the fall. You'll have to listen carefully to hear their soft, sweet call and the occasional short, warbled song.



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MUTT MITTS

Forgot to bring a bag along when walking your dog? Now you have nothing to worry about if the need should arise for Fido to leave a deposit along the way. OFNA has installed 3 Mutt Mitt dispensers around the neighborhood at the corners of Genematas & Yvon, Maria & Agave and Genematas & Canyon View at the Triangle Park. The bags are high quality and we're sure you will find them excellent for the job at hand or for carrying that bit of trash you were kind enough to pick up on your walk.

By using the Mutt Mitts and picking up after your dog, you'll be doing your part to make Oracle Foothills a nicer place to live. Many thanks to those who have already been utilizing the mitts.

Enjoy your travels around the neighborhood!



Real Estate Report

Comparative Market Analysis for listed properties in Oracle Foothills Estates. "Sold" properties have closed escrow within the last 6 months. *Data provided by Camille Zachmeier, Realtor*



<u>Status</u>	<u># Properties</u>	<u>Avg. Price</u>	<u>Price/Foot</u>
Active	4	535,999	244.68
Contingent	1	389,000	164.90
Sold	4	366,725	157.47

Manufactured and Affordable Housing Strategy Committee

By Carole DeAngeli

Early last year I was appointed by Supervisor Ann Day to serve as her representative on a newly established committee whose original intent was to study the possibility of allowing manufactured housing into a wider array of zoning areas in unincorporated Pima County. By the time the committee had actually formed, the charter had expanded to include the much larger issue of affordable housing in Pima County. As you can imagine, this is an extremely broad and complex issue, and not one I have any hope will be solved by this committee.

Also on the committee are representatives from each of the other supervisors, neighborhoods, Pima County staff, manufactured housing industry, affordable housing agencies, and the Pima County Housing Commission. The committee is separating the 'manufactured' from the 'affordable' portions of our goals. Until recently we were working exclusively on recommendations to increase the availability of affordable housing to those within the range of 80-120% of Area Median Income. (Pima County AMI is currently around \$52,000). All of the committee's recommendations on this issue will be forwarded to the Housing Commission for further action.

The manufactured housing industry would like to see the zoning code amended to allow multi-unit manufactured housing in areas currently zoned CR-3,4 and 5, from which they are currently excluded, and to include design requirements that would make the units compatible with site-built neighborhoods. The zoning in Oracle Foothills is CR-1 and is based on the minimum lot size allowed. Zones CR-3 (Single Residence Zone), CR-4 (Mixed Dwelling Type Zone) and CR-5 (Multiple Residence Zone) are much smaller properties. The MH people seem to believe that property values and neighborhood attitudes would preclude

manufactured housing from CR-1 and other zones with larger properties, and at this point there is no discussion of including those areas in the text amendment process.

Presently in Pima County, multi-unit manufactured housing (units built after 1976 conforming to HUD standards) is allowed in a number of residential zones - IR, RH, GR-1, SH, CMH-1, CMH-2, MU and TR. Last week the committee toured a variety of subdivisions including older and newer CR-3,4, and 5, and manufactured home developments of various ages and sizes. Recommendations for any zoning code text amendments will go to the Planning and Zoning Commission and then, if approved, to the Board of Supervisors for their approval.

Newer subdivisions in zones CR-3,4,5 may preclude manufactured housing in their CCR's, in which case they would not be affected by any change the committee would make. However older subdivisions may have CCR's that do not mention MH specifically, or whose CCR's have lapsed. If the zoning code were to be amended, manufactured housing would be allowed as infill in those developments.

The committee's current schedule calls for our work to be completed in September or October. Meetings are held monthly on the 4th Wednesday from 4 to 6pm. All meetings are open to the public. The MAHSC website is: <http://www.pimaxpress.com/Planning/MH.htm>

For more information on the current zoning code, go to <http://www.co.pima.az.us/cob/code/c18a.html#2090>

Please contact me if you would like more specific information on the committee's activities and proposals, or if you would like to attend a meeting.

Carole DeAngeli
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E-MAIL UPDATES

Neighborhood e-mail updates are sent out generally once a week. If you are not currently on the distribution list and would like to be, please send a request to the address below. If you do not have e-mail, perhaps a neighbor would be kind enough to print their copy for you. It doesn't hurt to ask.

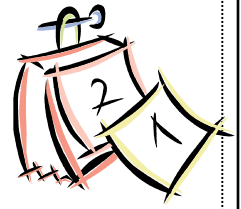
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SAVE THE DATES

Here are some important neighborhood dates to put on your calendar:

- **September 13** - All neighborhood **Annual Meeting**
Dove of Peace Lutheran Church
9am - 12pm
- **October 25- Neighborhood Picnic**
In the wash next to 220 E. Yvon Dr.



Update on the Friendly Village Wash Remapping

As we told you in the last issue of the Desert Dwellers, the Pima County Flood Control District has remapped the 100-year flood plain of the Friendly Village Wash - the main wash system that runs through our neighborhood. The new maps were submitted to the Federal Emergency Management Agency (FEMA) in December of 2007.

After reviewing the maps, FEMA requested additional information regarding engineering drawings of the culvert system under 1st Ave. This additional information should have no affect on the new maps of our washes. Once the culvert information was

submitted in mid-April, the new 90-day approval clock began.

After the new maps have been approved by FEMA, all residents who are affected by the changes will be notified. As a result of the new, more accurate maps, some residents may find that they are no longer in the flood plain and will no longer require flood insurance.

OFNA will have copies of the new maps at our annual meeting on September 13th.

Jay DeAngeli



WATER HARVESTING

Before long, the monsoon will be bringing our wonderful summer storms with their often intense downpours of rain. When rain falls that rapidly, most of it runs off so quickly that it has no time to soak into the ground and benefit our landscaping. Capturing and storing rainfall to irrigate plants is known as water harvesting, and is one of the oldest gardening methods known. Water harvesting can help reduce your dependence on municipal water, lower your water bills and decrease landscape maintenance needs.

In Tucson there are many resources to assist you in learning about and establishing a water harvesting system for your home. The Cooperative Extension service of the University of Arizona offers a great deal of information on the subject and is an excellent place to start. They conduct a full schedule of workshops on water harvesting as well as on xeriscaping and drip irrigation.

At their publications office at 4101 N. Campbell, you can get an informative booklet on the subject: *Harvesting Rainwater for Landscape Use* by Patricia Waterfall.

Here is information about upcoming workshops:

Harvesting Rainwater for Landscape Use This workshop teaches simple and complex water harvesting methods. Discussion focuses on passive ways to redirect water for immediate use and active ways to capture water for later use. Water harvesting can help to offset landscape irrigation costs as well as reducing the dependency on municipal or well water supplies.
Instructor: Scott Calhoun, Zona Gardens
Schedule: July 26, October 8
Time: 9:00 - 11:00 a.m.
Location: Pima Country Cooperative Extension, 4210 N. Campbell, 520-626-5161

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