



The Buzzzzz

The Monthly Newsletter of the Gilroy Beekeepers Association

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Volume XX

August 2014

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Photo by Randy Fox

Getting to Know Each Other

by Vicki Basham

What a treat it was to meet Bob Weseloh, his daughter, and his wife, Karin. Not only did I get to hear Bob's beekeeping experiences, I also got

but Bob's interest in bees is just as intense now as it has ever been.

Bob has kept Italian and Russian bees, but if he had to choose between the two, he'd probably go with Italians. "I'm holding off



to meet four of Karin's very large, delightful, award-winning mastiffs! It was a lovely way to spend a late afternoon.

Bob currently has five hives that he keeps on a hillside at his home in San Martin. He had always been interested in bees, but it was his grandson who finally led Bob to actually bringing bees home about five years ago. His grandson was nine at the time and became intensely interested in bees through his involvement in 4-H. After three years, his grandson's interests expanded to other critters,

judgment right now, but it does seem that the Russians are slow to build wax and are a bit hotter. The Italians have been very gentle, productive and hard working."

When asked how he handles mite problems, Bob stated that he has used various treatments such as Mite Away. "But the minute I placed it in there, the bees disappeared. You start thinking to yourself, 'How is this good for the bees? How is this good for the queen?' We just have to do our thing and hope for the best. "



Karin and her daughter with a few of their pet!

Bob's favorite way to learn more about bees is to read. He has quite a few books on beekeeping and especially likes Jeremy Rose's "Beekeeping in Coastal California" and Kim Flottum's "Backyard Beekeeper". He also enjoys going to the bee guild meetings, and noted that everybody seems to have a good tidbit to offer.

Bob's advice to new beekeepers is to get as much information as possible. He thinks that classes are a good way to go, but he believes hands-on experience is especially useful. "Visiting hives can be very valuable - you can cut the learning time down a lot."

One of Bob's most memorable moments in beekeeping was when he noticed that Chance, one of Weselohs' curious mastiffs, was up at the hives snapping away at bees! He called the dog, and the obedient pooch came running back to Bob. Unfortunately, a cloud of angry bees also came along with the dog, resulting in several stings to both man and dog!

Bob sums it up by saying "Bees are incredibly interesting. You're always learning something. I'm pretty hooked!"

Guest Column

Editor's Note: This month's column is a re-print of an article sent to me by Fran Bach, secretary of the Western Apicultural Society. I felt it was

interesting in that it showed a new dimension to the current plight of the honey bee.

Bees and Colony Collapse

By MARK WINSTON

Around the world, honeybee colonies are dying in huge numbers: About one-third of hives collapse each year, a pattern going back a decade. For bees and the plants they pollinate — as well as for beekeepers, farmers, honey lovers and everyone else who appreciates this marvelous social insect — this is a catastrophe.

But in the midst of crisis can come learning. Honeybee collapse has much to teach us about how humans can avoid a similar fate, brought on by the increasingly severe environmental perturbations that challenge modern society.

Honeybee collapse has been particularly vexing because there is no one cause, but rather a thousand little cuts. The main elements include the compounding impact of pesticides applied to fields, as well as pesticides applied directly into hives to control mites; fungal, bacterial and viral pests and diseases; nutritional deficiencies caused by vast acreages of single-crop fields that lack diverse flowering plants; and, in the United States, commercial beekeeping itself, which disrupts colonies by moving most bees around the country multiple times each year to pollinate crops.

The real issue, though, is not the volume of problems, but the interactions among them. Here we find a core lesson from the bees that we ignore at our peril: the concept of synergy, where one plus one equals three, or four, or more. A typical honeybee colony contains residue from more than 120 pesticides. Alone, each represents a benign dose. But together they form a toxic soup of chemicals whose interplay can substantially reduce the effectiveness of bees' immune systems, making them more susceptible to diseases.

These findings provide the most sophisticated data set available for any species about synergies among pesticides, and between pesticides and disease. The only human equivalent is research into pharmaceutical

interactions, with many prescription drugs showing harmful or fatal side effects when used together, particularly in patients who already are disease-compromised. Pesticides have medical impacts as potent as pharmaceuticals do, yet we know virtually nothing about their synergistic impacts on our health, or their interplay with human diseases.

Observing the tumultuous demise of honeybees should alert us that our own well-being might be similarly threatened. The honeybee is a remarkably resilient species that has thrived for 40 million years, and the widespread collapse of so many colonies presents a clear message: We must demand that our regulatory authorities require studies on how exposure to low dosages of combined chemicals may affect human health before approving compounds.

Bees also provide some clues to how we may build a more collaborative relationship with the services that ecosystems can provide. Beyond honeybees, there are thousands of wild bee species that could offer some of the pollination service needed for agriculture. Yet feral bees — that is, bees not kept by beekeepers — also are threatened by factors similar to those afflicting honeybees: heavy pesticide use, destruction of nesting sites by overly intensive agriculture and a lack of diverse nectar and pollen sources thanks to highly effective weed killers, which decimate the unmanaged plants that bees depend on for nutrition.

Recently, my laboratory at Simon Fraser University conducted a study on farms that produce canola oil that illustrated the profound value of wild bees. We discovered that crop yields, and thus profits, are maximized if considerable acreages of cropland are left uncultivated to support wild pollinators.

A variety of wild plants means a healthier, more diverse bee population, which will then move to the planted fields next door in larger and more active numbers. Indeed, farmers who planted their entire field would earn about \$27,000 in profit per farm, whereas those who left a third unplanted for bees to nest and

forage in would earn \$65,000 on a farm of similar size.

Such logic goes against conventional wisdom that fields and bees alike can be uniformly micromanaged. The current challenges faced by managed honeybees and wild bees remind us that we can manage too much. Excessive cultivation, chemical use and habitat destruction eventually destroy the very organisms that could be our partners.

And this insight goes beyond mere agricultural economics. There is a lesson in the decline of bees about how to respond to the most fundamental challenges facing contemporary human societies. We can best meet our own needs if we maintain a balance with nature — a balance that is as important to our health and prosperity as it is to the bees.

****Mark Winston**, a biologist and the director of the Center for Dialogue at Simon Fraser University, is the author of the forthcoming book “Bee Time: Lessons From the Hive.”

President's Message

by Wayne Pitts

August in the Beeyard

(Editor's note: Thanks to the Prez for making my job easier! His message details what should be done with your hives during August. Therefore, the column which normally follows his will not appear this month. It will return in September.)

The year is going by far too fast. August is upon us and now is the time to prepare for winter, that time of year when we wish it were summer.

First and foremost, be sure you are ahead of the mites. As the bee population starts to taper down, the mite population is ramping up. There are several methods of treating for mites. See the April 14 newsletter "Presidents Message" for details on determining the level of infestation and treating mites if necessary.

Second, fat bees live longer than skinny bees. Fatten your bees with pollen patties. These are protein supplements that help build up their

protein reserves. Sources for patties are: Mann Lake, Dadant, Global Patties, or you can roll your own. The internet abounds with recipes for making your own. Shoot for the highest protein level you can buy or make.

Third, examine your hives. From now until the end of September, combine weak with strong ones by removing the weak hive queen and using the newspaper method to combine. Take your losses now, not in the winter.

Fourth, it may be time to start feeding your bees. If the hive(s) seem to be losing weight, by all means help the buggers out. Here on Mt Bubba, the nectar flow has for all purposes ended until the Eucalyptus starts to bloom near the end of the year. I have about 10 of mine and 3 hives belonging to others being nursed back to health and beyond. The bees are consuming about 3 gallons of 1.5: 1 sugar to water. I mix 5 gallons at a time at 2:1, but add a gallon of water a day to the feeder to keep the pump from being over loaded. Lots has been written about the actual ratio of sugar to water. 1:1 closely approximates nectar. 2:1 converts to honey faster, since the percent water concentration is already lower. Honey is about 4:1 with percent water being less than or equal to 18 percent. If you start to feed sugar water, remove your supers first.

And lastly, start culling the old dark combs when you put your unused equipment into storage. It helps to date all of your frames when they are first installed. After 5 years they should be destroyed.

Drippings From The Extractor

by Dave Stocks

President Wayne wanted me to be sure and remind everyone that the GBA has an extractor for rent. To reserve it, or for more information, contact Wayne at kingbee@uvasgold.com or 408-644-2382. Hopefully, in spite of the drought, it will be a good honey year!

The August 2014 issue of *National Geographic* had an interesting article on natural solutions to pest problems. Although use of what they call "biopesticides" is increasing, they

still account for only a very small part of the total pesticide market. In 2011, the United States accounted for 27.1 percent of worldwide sales. Europe was the leader at 29.5percent. Africa had the least share of sales at 3.2 percent. Biopesticides include plant extracts, beneficial bacteria, fungi and viruses, and invertebrates. This seems particularly interesting as the concern over pesticide usage increases.

Are you a candle maker? If so, the Western Apicultural Society is looking for a presenter for their September conference in Missoula, Montana If you're interested, contact Dr. Jerry Bromeshenk at WASpresident2014@gmail.com

. There is currently a bill making its way through congress that would be very positive for beekeepers and others concerned with protecting our pollinators. Congressional house bill 4790 has been referred to the House Transportation and Infrastructure committee for consideration.

The bill is to amend Title 23, United States Code, to encourage and facilitate efforts by States and other transportation rights-of-way managers to adopt integrated vegetation management practices, including enhancing plantings of native forbs and grasses that provide habitats and forage for Monarch butterflies and other native pollinators and honey bees, and for other purposes. Such actions would greatly improve forage for pollinators if enacted. It seems that optimism for the bill passing is low. Let's keep our fingers crossed! The full text of the bill can be found at: <https://beta.congress.gov/bill/113th-congress/house-bill/4790/text> .

What's that Bee? One of my greatest joys is walking in the yard and seeing what bees are on what plants. In fact, it was going to be the topic of this month's guest column except I'm a procrastinator! Maybe next month! Anyway, it's interesting to note what bees are working which plants. In my yard it seems the honey bees prefer basil and oregano, the bumble bees like lavender and the native bees are all over the native buckwheat. The carpenter bees are still hanging out on the honeysuckle. I hope

they're not nesting in the eaves! One bee I haven't seen is the Valley Carpenter Bee.



Male Valley Carpenter Bee

What makes this bee interesting is that the drone is gold in color. The females are black like other Carpenter bees. I've had several friends ask me if I've seen it. I guess it is becoming common in the San Jose area. Don't worry, it's not an invasive pest. It's native to Southern California and the Central Valley. With global warming, I guess it's looking for a cooler climate.

Plant of the Month Milkweed (*Asclepias* sp.)

Milkweeds are an important nectar source for bees and other nectar-seeking insects, and a larval food source for monarch butterflies and their relatives, as well as a variety of other herbivorous insects specialized to feed on the plants despite their chemical defenses.

Milkweeds belong to the family Asclepiadaceae, derived from Asklepios, the Greek god of medicine and healing. Though most members of the genus *Asclepias* are tropical, there are approximately 110 species in North America known for their milky sap or latex contained in the leaves. Most species are toxic to vertebrate herbivores if ingested due to the cardenolide ingest the plants' toxins, called cardiac glycosides. They sequester these compounds in their wings and exoskeletons, making the larvae and adults

toxic to many potential predators. Vertebrate predators may avoid Monarchs because they learn that the larvae and adults taste bad and/or make them vomit. There is considerable variation in the amount of toxins in different species of plants. Some northern species of milkweed contain almost no toxins while others seem to contain so much of the toxins that they are lethal even to monarch caterpillars.

Milkweeds are a fascinating bunch with a wide range of characteristics. The following are among my favorites and the most frequently encountered, and knowing about them will give you a good beginning for understanding what you are actually looking at when you hear certain names, and then deciding which to include in your garden.

Asclepias tuberosa. This milkweed is distinctive for its orange color. It carries the common name of butterfly weed in addition to 14 other names, including Canada root, fluxroot, yellow milkweed,



Asclepias tuberosa

butterfly love, butterfly flower, and Indian posy. It is highly attractive to nectaring butterflies who are drawn to its bright orange to yellowish, nectar-rich flowers. *A. tuberosa* is perfectly adapted to life in a home garden, staying in place with a long bloom season. **Do not confuse this plant with the commonly called "butterfly bush,"** which is the buddleia, or buddleia bush. Buddleia bush is native to China, and while its flowers do attract many butterflies, not one single butterfly in North America can use it as a host plant, a plant that will provide food for the emerging caterpillars.

Asclepias curassavica or tropical milkweed or bloodflower

Tropical milkweed is not native to North America, but, due to its showy flowers and its ability to attract egg-laying monarchs, it has been widely planted in gardens. In Florida, the species has escaped from gardens and become established in natural areas. Scientists are *concerned that this nonnative milkweed has negative impacts on monarchs because, unlike most North American native milkweeds, it will have foliage year-round when growing in areas with mild winters and adequate moisture. This can cause monarchs to lay eggs outside of their regular breeding season or persist in areas longer than they normally would, disrupting their migratory cycle. Year-round persistence of milkweed has also been found to result in dramatically higher parasitism rates in monarchs, and thus lower monarch survival. A better understanding of where this milkweed occurs in the landscape may facilitate study of its potential impacts or aid early eradication efforts.*

Tips for Milkweed Identification

Unless you are already familiar with the native milkweeds of your region, it's unlikely that you'll be able to identify different species if they are not flowering or bearing fruits. Milkweed flowers and fruits are very distinctive and can be easily recognized, allowing confident identification when they are present.

Flowers

Milkweed flowers are arranged in clusters. Depending on the species, the stalk that bears the flowers can be either erect or drooping. The showy, upper part of each flower, called the corona, consists of five hoods, where nectar is stored. The shape of the hoods is variable between species. Five petals, which together are called a corolla, form the lower part of the flower and in most species, are bent backwards.)

Fruits

Milkweed fruits ("pods") are also very distinctive though they are variable in size and shape between species. When the fruits are

mature, they split open lengthwise, releasing the seeds.

Each seed is attached to fluffy hairs that aid in wind dispersal.

Milky sap

Milkweeds are named for their milky, latex sap, which oozes from the stems and leaves when plants are injured. Milkweeds are not the only plants that have milky sap, but in combination with the unique flower shape, this can help to positively identify a milkweed plant. To check for the sap, tear off a small piece of leaf to see if it oozes from the torn area. Avoid any contact of the sap with your skin, eyes, or mouth

Floral Structure

Flowers are significant in plant identification because flowers are intricate structures with many features that can be assessed, counted, and measured. Affinities among closely related species can be shown because floral morphology is conservative. Leaves and stems have features shared across many groups and lack unique combinations of features for species identification.

Like other flowers, milkweeds have floral whorls of sepals (collectively referred to as the calyx) and petals (collectively called the corona). Flowers of milkweeds are interesting because they have an third whorl of five hoods each of which encloses a horn (modified filaments of the anthers). Together, hoods and horns are referred to as the corona. The horns of some species are long, while the horns of others are reduced to the point they cannot be seen.

Pollination

Pollination in this genus is accomplished in an unusual manner. Pollen is grouped into complex structures called pollinia (or "pollen sacs"), rather than being individual grains or tetrads, as is typical for most plants. The feet or mouthparts of flower-visiting insects such as bees, wasps and butterflies, slip into one of the five slits in each flower formed by adjacent anthers. The bases of the pollinia then mechanically attach to the insect, pulling a pair of pollen sacs free when the pollinator flies off. Pollination is effected by the reverse procedure

in which one of the pollinia becomes trapped within the anther slit.

Milkweed produce their seeds on follicles. The seeds, which are arranged in overlapping rows, have white, silky, filament-like hairs known as pappus , silk, or floss. The follicles ripen and split open, and the seeds, each carried by several dried pappi, are blown by the wind. They have many different flower colorations.

In closing please remember that milkweed is a.... WEED and it can be very invasive if not closely managed. In my habitat I encourage growth as the bees love it and I am actively attempting to attract Monarch Butterflies. The plant is best managed by cutting off the large seed pods that form in early July. If you wish to save seeds then the trimming exercise becomes somewhat more tricky as you must wait until the pods turn brown and begin splitting open. If you choose to save seeds for growing the next season remember that most milkweed requires cold stratification i.e. put the seeds in the refrigerator for at least 2 weeks prior to planting.

Calendar of Events

Meetings

August 2, 2014

Monterey Bay Beekeepers - 8 AM
2450 N. Fremont St. Monterey, Ca
<http://www.montereybaybeekeepers.org/>

August 4, 2014

Santa Clara Valley Beekeepers Guild -
6:15 PM
1292 Minnesota Ave.
San Jose, Ca
<http://beeguild.org/>
Speaker:
Serge Labesque

August 5, 2014

Gilroy Beekeepers Association - 7 PM
Gilroy Old City Hall
7400 Monterey
Gilroy, CA
<http://www.uvasgold.com/gba/>
Speaker:
Jeremy Rose

August 6, 2014

Santa Cruz Beekeepers Guild - 6:30 PM
El Rio Mobile Home Park
2120 N. Pacific Ave
Santa Cruz, Ca
<http://santacruzbees.com>
Speaker:
Jeremy Rose

August,2014

Beekeepers Guild of San Mateo County-
7 PM
1106 Alameda de Pulgas
Belmont, Ca
<http://www.sanmateobeeguild.org/>
Topic:
Understanding Viruses in Your Honey Bee
Colonies - Heather Gamper

Classes/Workshops/Meetings

August 2-3, 2014

2nd Annual Treatment Free Workshop
Medford, OR
Details at www.blisshoneybees.org

September 6, 2014

Intermediate Beekeeping
w/ Serge Labesque
San Mateo, CA
Contact
<http://www.sanmateobeeguild.org/> for
details

Meetings Continued

September 17-20, 2014

Western Apicultural Society Annual
Meeting

Missoula, Montana

http://ucanr.edu/sites/was2/Conference_Information/

November 18-21, 2014

California State Beekeepers Association
Valencia, CA

<http://www.californiastatebeekeepers.com/events.html>