

The Urban Farmer

THE BUZZ

Here we go—another issue of *The Urban Farmer*, this one is the twelfth edition. Over the years we have attempted to share some of our joy of learning and our fascination with bees and the natural world. Occasionally we get a request for past editions or the entire collection. Regretfully, we are not prepared to deal with that, but you can read and download all past *Urban Farmers* from our website: www.knoxcellars.com.

The website is also handy for reviewing our catalog of products and you can order from it directly. Just follow the directions, use a MasterCard or Visa credit card, and you will soon have our products on their way to you. It is really very easy.

BACK TO THE RESEARCH STATION

My experience last year at The Bee Course was so satisfying and personally rewarding that I sought to reclaim some of it by another trip. The Arizona desert blooms twice a year, once in spring and again during the rainy season. In August we had collected and identified dozens of bee species, and I was curious to know if the spring bloom would result in an entirely new collection.

My curiosity and the desire to have my wife experience the beautiful canyon in the Chiracahua Mountains of Arizona (where the Research Station is located) called me back. For a week in May, Marya and I and another couple, the John Arnolds, stayed at the Station. We relaxed, hiked the side canyons, drove the mountain and desert roads. We toured Douglas, Arizona, and the nearby Slaughter Ranch, the interesting copper mining town of Bisbee, even a brief pass through fabled Tombstone.

Of course, I found plenty of time to wander the desert netting bees, but the collecting was a little disappointing. We had missed the height of the spring bloom. The desert flowers were quite limited to the yellow blooms of Rabbit Brush, the occasional stand of Canadian Thistle, and several varieties of cactus ablaze with yellow blossoms. The bee species were the same that we had found the previous August, no great discoveries for me, but still a pleasant experience in this now familiar terrain. If the bee population was not astounding, the number and variety of

birds was astonishing. We didn't count the species but Portal, Arizona, must be one of the really good birding locations on the continent. One significant failure was our inability to see the exotic Elegant Trogon, a Central American bird that nests in the Chiracahuas, the very northern tip of its range. We heard them, but repeated walks through their canyons did not result in a sighting. Reason to go back another year.

NESTING TUBE OBSERVATIONS

Our System nesting tubes seem to offer unlimited opportunity for insect observation. We get letters and emails from all across the country describing bees or wasps that are observed using the tubes. From San Juan Island, Washington, to Maine and North Carolina, our customers are enjoying the large variety of creatures that will nest in the paper liners of our nesting system.

And so, the lesson learned is to keep empty tubes available to the bees and wasps of your area throughout the spring and summer nesting season.

If you let the Mason bees fill all of your available nesting tubes during their spring season you will have no room for the other hole nesters that may be in your yard later on. We suggest that you hold back a can of nesters until the Mason bees are done, then put your available nesting tubes out and watch closely who comes to use them. Depending on where you live you are apt to see Leaf Cutters bringing large pieces

of leaves to the holes, or wasps of several descriptions bringing in small caterpillars and other meat sources for their larvae. There are several basic things to remember about these myriad hole nesters.

- All of them are solitary insects, not social. This means that they do not have a queen or a society to defend and thus they will not be defensive. You can stand close by and not worry about being stung.
- All of them are beneficial. The bees, because they must gather pollen and nectar to feed their larvae, will pollinate your garden. The wasps must feed their larvae meat and thus these great hunters will search high and low in your garden for creatures that are feeding on your plants. They paralyze beetles, thrips, and tiny caterpillars and bring them to the nesting hole to provision the nesting cell and its freshly laid egg. The egg soon becomes a larva which feeds and grows on the rich protein of the waiting insect provision.
- The nesting holes will each have a number of cells constructed by the parent and a protective entrance plug sealing the nesting tube from invaders. The cell walls and sealing front plug can be made of a wide variety of materials. Some bees (*Osmia californica* for example) chew up leaves into a mulch, mix it with dirt, and create a hard and tough composite plug. Others cut perfect round circles tailored to fit the opening and pack them in one after the other creating a multilayered plug. The interior cells are crimped together capsules that always remind me of sleeping bags. Dirt and mud remains a popular material, sometimes enhanced with glandular secretions, sometimes just dried in place held by its natural bonding characteristics. Several creatures strengthen the mud mix with bits of straw and twigs like the

adobe brick makers of desert dwelling humans. Perhaps the most exotic building material is the tree pitch used by *Heriades carinata*, and some of the aphid eating wasps. How do they work with that sticky stuff and not get entirely bound up in it?

The lesson to be learned here is to increase your bee-watching pleasure and your understanding of the natural world around you by keeping empty nesting holes available in your garden all season long. You will be pleased and amazed by what you see and learn.

WARNING: AN INADVERTANT BEE KILLER

David Dawson wrote from Aberdeen, Maryland, that he had “A bad spring this year, I lost my whole colony.” It seems he recently built a tree fort for his two young boys. The fort had many windows. It was as yet unpainted when the Mason bee season began, and its interior had many black screw heads showing.

David watched the bees emerge and mate, but none returned to nest in the nesting tubes. He finally found his bees, trapped in the windows of the tree fort, all dead. David presumed that the screw heads looked like holes to the bees and they were attracted inside the fort only to die vainly trying to escape through the glass. He asked us to warn others—don’t attract Mason bees into glass enclosed structures. It will be the death of them.

David ordered more bees and plans on removing the windows in future springs.

BUMBLEBEE SUCCESS

Ione Vrabel writes from Shelton, Washington, “I read your book *Humblebee Bumblebee* and purchased one of your bumblebee homes at the Northwest Flower and Garden Show. I am happy to report success in obtaining an occupant.”

After a failed attempt to introduce a captive bumblebee into her “Humble Bumble Home,” she placed some of her son’s hamster nesting material into the house and left it alone. Nothing appeared to be happening, so some weeks later she caught another bee in her garden and went

to place it in the home. Upon lifting the lid she encountered a “cranky queen who was already making a home in the nest.” Hurray! Success!

Ione speculates that the hamster material may have something to do with her success. Ione, we are sure that it does. For some time we have advised folks to find an old mouse nest and to put some of that material into the Humble Bumble Home. Here is the theory. Before man arrived to provide other nesting opportunities in his insulated structures the nesting place of choice for many species of bumblebee was an abandoned field mouse nest in the ground. Those old mouse nests offered all that the bees required, a cool dark confined space, a narrow entrance that they could defend, and most importantly a cozy handful of insulating nesting material left behind by the mice. That old nest no doubt retained a strong smell of its prior rodent occupants.

It is the vestigial smell of the old nest which attracts bumbles. It makes sense that hamster bedding would provide the same attractive odor and helped to attract Ione’s lodger.

Thanks for the nice letter Ione, and for the hamster tip.

THE RUSSIANS ARE COMING, THE RUSSIANS ARE COMING!

A recent article in the *Christian Science Monitor* reviewed the nation’s troubles keeping enough honey bee colonies healthy to pollinate America’s crops. To quote the *Monitor*, the invading Varroa mite and Trachial mite have virtually eliminated wild honey bees and reduced the nation’s commercial colonies from 3.2 million to 2.6 million.

The article goes on to suggest that the mites have been developing resistance to the chemicals that have been holding off a further collapse of colony numbers. Researchers believe the chemical solution is a short-term one and is at best a bandaid approach. Frank Eischen, a research entomologist for the USDA, says the best hope is a genetic solution—an internal modification of the bees that makes them immune or resistant to the mites. There is the possibility of man genetically altering

the bees, but Eischen thinks that Russian honeybees may be the solution.

The bees come from the Vladivostok region of eastern Russia where they have had 150 years to adapt to the Varroa mite and develop a resistance to them. That resistance is simply the instinctual ability to scrape off the external blood-sucking mite. Normal honeybees are not genetically programmed to do that simple task.

We suggest that learning to use the thousands of species of native bees that occupy our continent and are not affected by the Varroa or Trachial mites might be appropriate at this juncture. If we can learn to protect habitat, control pesticides, and educate our public, native bees can help immensely.

COULD PIERIS BE POISONOUS?

The email brought a fascinating question from Phil Reda. He was reading *The Orchard Mason Bee* in preparation for beginning to propagate that wonderful bee. He also plans to raise honey bees and harvest their honey.

He found in the book *Tree & Shrub Gardening for Washington and Oregon* that all parts of Pieris plant, and even honey made from the nectar, are extremely poisonous to humans. He asked if we had heard of any problems with honeybees collecting nectar from Pieris and contaminating the honey.

The question flabbergasted me. I have been surrounded by *Pieris japonica* all of my life and never heard of Pieris being poisonous. Then just the next day I got another inquiry from a woman asking about the toxicity of Pieris leaves. I found myself completely ignorant. I can only testify that Orchard Mason bees and bumblebees surely thrive on the pollen and nectar collected from *Pieris japonica*. I determined to observe the Pieris in the spring to see if honey bees frequented it.

Spring came and I forgot my resolve. I did not look for honeybees on the Pieris, but now in retrospect, I do not recall seeing them among the visitors to those early blossoms, nor do I remember seeing them in previous years. Do you suppose the urn-shaped blossom of *Pieris japonica* is difficult for honeybees to plumb, or

do they have some natural aversion to its nectar. The solution to the mystery will now have to wait until next spring when I promise I will observe carefully and report in a subsequent *Urban Farmer*. In the meantime, if you have any knowledge to add to the matter we will appreciate hearing from you.

TOXIC PLANTS: MORE ON THE SUBJECT

Catherine Vega of Simi Valley, CA, wrote in February to warn of the poisonous qualities of *Pieris japonica*. She sent along a toxic plant reference guide from the National Animal Poison Control Center which reveals lots of my old plant friends are toxic. Those dangerous plants include amaryllis, apricot, and azalea. Even the ubiquitous apple will give you a load of cyanide or Prussic acid if you eat the stems and leaves.

In a state of shock, I responded that learning these alarming facts was akin to learning that your next door neighbor was a serial killer. It shakes ones' sense of security, maybe my grandkids who like only peanut butter sandwiches on white bread have the right idea. On the other hand, I understand that there are people who have deadly allergic reactions to peanuts. Well, life is not without risk.

OUR PARTNERS AT THE BEE FACTORY

Have we told you about the unique and wonderful relationship forged between Knox Cellars and the Chelan Douglas Developmental Services (CDDS)? Long ago we realized that we could not assemble all of our products, warehouse them and ship them without help. We were able to develop a working relationship with CDDS, a non profit social agency that is devoted to their mission of providing employment and training, and a meaningful life for adults with developmental mental and physical problems.

CDDS is located in Wenatchee, Washington, a small city on the east side of the Cascade Mountains several hundred miles from Bellingham and Sammamish where we live. These good people contract to do all of those things that we do not have



time for. They assemble the hundreds of thousands of nesting tubes that we sell each year. They package and label many of our products, warehouse them in a rented section of an old apple warehouse, and for the past several years they have also done our shipping.

Under capable supervision at The Bee Factory, several "clients" spend their entire shift inserting white paper liners into the Kraft paper guard tubes, then inserting our black plastic plug into the end. "Dan" specializes in counting out the two hundred nesting tubes of the System 200, and sealing the box with its printed instructions. Dan cannot speak very well, but his smile of pride and accomplishment when showing you his day's accumulated work would warm your heart. Each "client" is matched to a job that meets his or her abilities. We take great pleasure in being able to work with this fine organization and to help them in their important social mission of helping the less fortunate.

This shipment has been warehoused, packaged and shipped expressly for Knox Cellars by the clients of the Chelan-Douglas Developmental Services. CDDS is a non-profit social agency dedicated to providing jobs and a meaningful life for adults with physical or mental development challenges.

If you would like to help Knox Cellars support this worthy organization you may send your contribution to: Chelan-Douglas Developmental Services, P.O. Box 1, Wenatchee, Washington, 98801

THEY ARE STILL THERE

If you read last year's *Urban Farmer* you may remember the article about the parasitic bee *Coelioxys* that lays its egg in the nesting chamber prepared by its host bee, *Megachilidae frigida*. I had observed the drama of the *Coelioxys* lurking outside of the victim's nesting hole until the female *Megachilid* had left the hole, then darting in to do its dirty work and hurriedly exiting the nest before the female could return.

One could worry that the *Coelioxys* might lay eggs in every cell destroying the entire next year's population of *Megachilids*. I am happy to report that my *Megachilids* survived. In August, while sitting on the steps of the Knox Cellars workshop I was buzzed by two working female *Megachilids* coming and going from two separate holes they had dug in the sand between the heavy concrete pavers. On one incoming flight I watched a bee carrying a huge piece of leaf cut in a half circle about the size of half a twenty-five cent piece. The industrious mother flew to the hole and carefully tugged that huge piece of leaf down to her subterranean nesting cell.

Obviously the *Coelioxys* the previous year did not damage the population much. I suppose they never do lay their predatory eggs in every cell, otherwise they would destroy their host bees and ultimately their own species. The fact that I caught that marauding *Coelioxys* last year, and its dried carcass now rests on a pin in my bee collection, may have something to do with the story as well.

A final observation. I only saw those *Megachilids* nesting on two successive hot August days. Then the weather cooled a bit and although I watched for them, I never saw them again. The previous year it was the same story. I only saw that nesting bee working the hole for a few days, although I had observed them gathering at the flowers in the garden for some time before and after. Do you suppose they lay just a very few eggs each season? If I had more of them I would lift some pavers and excavate the nesting hole to count the cells but I don't want to damage the population. Perhaps I will observe them for a few more years before such drastic measures.

Megachile frigida is a robust active bee that has a frenetic and noisy flight technique, buzzing rapidly from flower to flower before finally selecting the blossom it wants to harvest. They seem to like the blossoms of Canadian thistles and artichokes and dive deep into the blossom to get at the nectary. The male of this attractive species has extremely long hairs on the front pair of legs making it appear as though he was equipped with a first baseman's mitt on each leg. It is not known for sure what these hairy brushes are used for, but one school suspects that they are sexual tools for stroking the female to get her in the mood for mating.

A PET PEEVE

I confess to a petty irritation at the common practice of calling wasps "Bees." I swear the vast majority of people I know, irritated at the persistence of the yellow jackets at their picnic or barbeque, curse at the "darned bees." I try to resist, but am not above suggesting to them that those yellow striped devils are indeed WASPS. This protestation for accuracy frequently launches me into a little lecture describing the difference.

At the risk of boring my readers I will give it to you now. It usually goes something like this.

"Yellow Jackets are not bees, they are wasps. There are about 4,000 different species of bees in North America and there are also about 4,000 different species of wasps. There is a basic difference—what they feed their babies. Bees must feed their larvae pollen and nectar. Wasps, on the other hand, must feed their larvae only meat. Thus the bees are the great gatherers of the Earth, while wasps are the great hunters. In fact, if it were not for the predation of wasps on the insect populations we would be wading around ankle deep in bugs of all kinds."

If my audience has shown any signs of interest to this point, I usually go on to tell them that nectar is the fuel that runs both adult bees and adult wasps, and the yellow jacket carving off that chunk of salmon on your paper plate is not going to eat it for herself, but will fly off with it to the nest full of hungry larvae. The yellow

jacket attracted to your beer bottle or soda pop will be seeking sugary sustenance for itself.

A further dissertation includes the news that as there are two tribes of bees, the solitary and the social, there are also two kinds of wasps. The social bees and wasps are far more aggressive and dangerous, as they must defend their societies and their queen or all is lost. On the other hand, the solitary bees and wasps are benign—not aggressive—creatures that will only sting if you force them to. Honey bees are the prime example of a social bee, while Yellow Jackets and Bald-faced hornets are classic social wasps. If you threaten their homes, prepare for trouble. Mason bees, and the mud-dauber wasps are examples of solitary creatures whose only interest is in creating a few nesting cells complete with an egg and food for the larvae that will eventuate. The adults quickly die, never seeing their young. Having nothing to defend they are almost entirely non-aggressive.

Bees, being gatherers and pollinators, have evolved body hair to facilitate their mission. Wasps are sleek and hairless, effective stalkers and hunters.

BEES OF THE WORLD AVAILABLE AGAIN

We are very pleased to announce that this great book is available again and Knox Cellars will stock it. It went out of print two years ago but is now being published again. The cover is different but its contents are the same, a wonderful compendium of the world's bees, with marvelous photographs and writing that you will understand and enjoy. Its authors, two world famous entomologists, Anthony Raw and Christopher O'Toole are that rare breed of scientist who can communicate in plain English. We recommend it highly at \$35.00.

ARE WE FAMOUS YET?

Knox Cellars was featured in a full page of the April 19, 2004, *People Magazine*. There was even a big picture of both of us standing in the Knox Cellars workshop brandishing insect collection nets. We got a big charge out of it and enjoyed the ribbing we took from our friends and

customers, but I guess we are not famous yet. We have not noticed parents pointing us out to their children or asking if they can photograph us yet, and we haven't been asked once for an autograph. I guess we remain just plain folks interested in bees and pollination. The good news is that a few more people in this nation will understand just a bit more about bees and their role in nature.

A FORK IN THE ROAD

Well, friends, it is time for me to retire for the second time. I have given my half of the bee business to Lisa and she will be in sole control as of November 1, 2004. It is a birthday gift that we give to each other, we share the same Nov. 1 birth date, you know. I give her the rest of the business and the opportunity to make some more money for her children's—my grandchildren's—rapidly approaching college expenses. She gives me the freedom to pursue all of those other fascinations beckoning to me with the full knowledge that the thousands of folks that we started with native pollinators will be well served and their needs respected and looked after.

I will continue my study of native pollinators, and have more time to devote to learning about them. I have a book about the art of espaliering fruit trees about half written and now I will have time to finish it. I intend to do a little more writing about bees and I hope you will see some of that in future *Urban Farmer* newsletters or maybe national magazines, and you might see me from time to time at the booth in the Seattle Garden Show, or doing a seminar at a garden nursery.

There are a host of creative projects awaiting my attention. I find that as the years pile up my creative juices flow faster. Must be something to do with the subconscious certainty that if you have something to do, you better get at it, none of us are going to live forever.

And so farewell dear friends, thanks for all the wonderful friendships, thanks for your business, thanks for joining me in this fascination with nature and with bees. Together we have made a difference, together we will continue to do so.

~ Brian L. Griffin