

KEARSARGE BEEKEEPERS

www.kbanh.org

SEPTEMBER 2015

**NEXT MEETING:
SAT., SEPT. 12, 2015
9-11 A.M.
PILLSBURY LIBRARY
WARNER**

The business meeting will be followed by a talk by Andrew Munkres entitled

**USING OVERWINTERED NUCLEUS COLONIES TO
EXPAND YOUR APIARY**

Andrew is a sideline beekeeper from Cornwall, Vermont. He produces queens, nucleus colonies, and honey and teaches beekeeping at Green Mountain College.

KBA FALL CALENDAR

- OCT. No regular meeting due to Warner Fall Foliage Festival
- OCT. 24 NH Beekeepers Fall Meeting hosted by Kearsarge Beekeepers
- NOV. KBA Potluck Holiday Dinner, date and place to be determined
- DEC. No regular KBA meeting
- JAN. 9 KBA Regular Meeting

IN THIS ISSUE:

- President's Message.....Pg. 1
- Info on Pollinator SummitPg. 2
- Club member rides for bees.....Pg. 2
- Focus on native pollinators; three articles.....Pg. 3-5
- The fall season in the hive.....Pg. 6
- Honey remedies & a request..... Pg. 7-8

What a busy time of the year for beekeeping! For most of us, our summer honey extracting is done. And the goldenrod has burst into bloom giving us a fall flow. But it won't be long before we will need to be thinking about how to prepare our hives for the winter.

You won't want to miss our September 12th meeting at 9 am at the Pillsbury Library in Warner—our last official meeting of the year.

First, I will be giving a summary of my week at the Eastern Apicultural Society's annual meeting, held in Guelph, Canada last month. I went for a full week, had a terrific time, and have much to share with the club.

Second, we will need to talk about the NH State Beekeeper's Fall Meeting, which our club will be hosting on October 24 at Camp Methodius Heritage and Retreat Center in Contoocook, NH. We will need to coordinate volunteers for help setting up and taking down the room, serving as hosts, as well as a multitude of other items.

Third—and most important—we will have a guest speaker. We are fortunate to have Andrew Munkres from Vermont speak to us on how to make nucs and grow your apiary. Thanks to John Chadwick for coordinating Andrew's visit.

So, as you can see, there is a lot going on. Many of us have not seen each other since our summer picnic. Come to our next meeting, reacquaint yourself with fellow beekeepers, and see how you can help.

I look forward to seeing you.

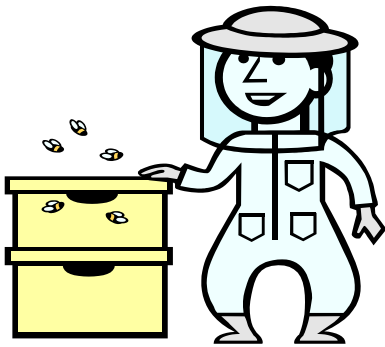
--Martin

Thanks to Richard Brewster for catching this announcement as well as the first two of the following articles on native pollinators.

NEW HAMPSHIRE POLLINATOR SUMMIT

From the 8/19/2015 issue of the NH Weekly Market Bulletin:

“The plight of the honeybee and other pollinators has piqued a lot of interest in the agricultural community and among members of the public. Pollinators play key roles in producing our fruits and vegetables. The department, under the leadership of Pesticide Control Director David Rousseau and State Entomologist and Plant Industry Director Piera Siegert, has been working with our partners at UNH Cooperative Extension, USDA Natural Resources Conservation Service and the NH Association of Conservation Districts on plans for a NH Pollinator Summit. Save the date now, for Monday, November 2, 9:00 am-4:00 pm, at the Grappone Center in Concord”



CLUB MEMBER RIDES FOR THE BEES

Connie O'Leary, a member of our club for the last few months and novice beekeeper, is biking from Canada to San Francisco, along the migration route of the iconic monarch butterfly, in order to raise money and awareness for the plight of our essential pollinators. She is most likely on her way west as you are reading this. The actual bike ride is from September 10 to October 3. Donations to Friends of the Earth in support of Connie can be made anytime during the ride and for some time afterward; just use the link below. (If the direct link doesn't work, you may need to copy and paste the address into your search box; you should come to a page with Connie's picture on it). Here is the message from Connie:

This September I am biking with 3 companions from Seattle to San Francisco as a fundraiser for the nonprofit Friends of the Earth. Friends of the Earth researches, educates and lobbies to protect our pollinators. I care about this so deeply because we have had a mutually beneficial relationship with the bees for millennia. In our modern world, they continue to give us honey as we poison them with toxic chemicals. You can help by sponsoring my ride and donating to this link: <http://www.foe.org/connie>

- The Department of Agriculture states that 42% of the managed honeybee colonies were lost from 2014-2015, more than twice the amount that is considered economically sustainable by beekeepers. One major factor is the indiscriminate use of neonicotinoid pesticides.
- When a seed is coated or a plant is sprayed with a neonicotinoid, every part of the plant, even the pollen and nectar is poisonous to the bees. In a 2014 study at Harvard, all bees exposed to a neonicotinoid either died or showed signs of colony collapse disorder.
- Although these pesticides are banned in Europe, they are some of the most widely used pesticides in the U.S. Last fall the EPA approved the use of an even stronger pesticide produced by Dow Chemical called Enlist Duo. Enlist Duo contains 2,4-D, a key component in the Vietnam defoliant Agent Orange.
- Beekeepers in the Yucatan, Mexico, organized to block a permit that would have allowed planting of almost a million acres of genetically modified soybeans. This would have harmed their bees and destroyed their honey market to Europe. Mexico is the third largest exporter of honey in the world and the EU does not buy GM foods. Let's join the Mexican beekeepers in this important struggle that knows no borders.

This is about more than saving bees. It's about moving us away from an agricultural system the puts pollinators, human health and the natural world at risk. Take a stand with me to protect the future of our planet and our children. "What we love, we will protect!" Please donate to Friends of the Earth at: <http://www.foe.org/connie>

Thank you for your support, Connie O'Leary

Fast Facts: Bumblebees

Status: New Hampshire hosts 17 species of bumblebees. Some of the most common bumblebees are declining across their range.

Description: Large size, dense fur, distinctive striped patterns of black and yellow, and sometimes red, orange or white.

Diet: Flowering plants. Adults feed on nectar to fuel flight, while larvae feed on high protein pollen. The length of the bumblebee's tongue determines its food choices, matching tongue length to flower depth.

Annual Cycle: Only the queen survives through winter. In spring, she emerges to build a nest and lay eggs in waxen pots supplied with pollen for the larvae. First, workers emerge, then later in season, new queens and drone males emerge to start the next cycle.

Threats: Disease, habitat loss, pesticides, pollution and climate change.

Importance: Extremely important crop and flower pollinators. Unlike honey bees, they are able to forage in cold, rainy and cloudy conditions. In the U.S., the economic value of the pollination services provided by native insects (mostly bees) is estimated at \$3 billion per year.

Fun Fact: Bumblebees can "thermoregulate" – they generate heat in their chest muscles by shivering to reach the minimum temperature for flight, about 85° F. This allows them to fly in spring and fall, when air temperatures are much cooler.

Read more about bumblebees in the July/August issue of *N.H. Wildlife Journal*. Subscribe today at wildnh.com.



Brown-belted bumble bee
(*Bombus griseocollis*)



The mighty mason bee: key partner in pollination by Joe Lamp'1

Backyard beekeeping has grown in popularity in recent years. A big part of the reason is the

concern by many people for the ongoing and mysterious loss of honeybees each year.

Although we still don't completely know why honeybees are dying off en masse, researchers seem to agree it's a combination of several factors including stress, pesticides, pests and pathogens. By adding a hive or two in our own backyards, we help do our part to keep the population in balance.

At the same time, researchers are learning how to tap into the power of other pollinators to fill the pollination gap. Solitary bees — specifically mason bees — might just be the solution. Although they don't make honey or beeswax, they're more efficient in collecting pollen than honeybees and with almost none of the

drawbacks that many first-time beekeepers experience.

Across the Northern Hemisphere, there are more than 300 species of the mason bee. More than 130 species of mason bees can be found in North America, including the orchard mason bee, blueberry bee and hornfaced bee. Mason bees are active from spring through late summer and are usually found in temperate regions.

Unlike the social honeybees that live in elaborately built hives with up to 60,000 of their siblings, the solitary mason bee lives and works its entire life alone, while doing so in a single enclosure, usually no wider than a common drinking straw. Simple holes in wood and hollow reeds are common nesting sites. The bee is named for its unique characteristic of making compartments of mud to house each egg in a bed of pollen.

The allure of using mason bees to complement the work of honeybees is their incredible efficiency at collecting pollen.

“A handful of mason bees (approximately 1,000) can pollinate an acre of apple trees,” said Dave Hunter of Crown Bees in Woodinville, Wash. “A full hive of 30,000 honeybees would be needed per acre to do the same thing.”

Almond farmers looking for an alternative bee see mason bees to fill the void.

“When honeybees and mason bees were put in the same fields,” Hunter said, “farmers had a record harvest.”

Setting up a mason bee habitat at home is a simple process. The bees need only a collection of hollow tubes that you can make yourself using paper wrapped around pencils to form their shape. Or simply drill holes into a block of wood. Then, place the wood or tubes in a sheltered housing to keep them dry. A simple

open-faced milk or juice carton mounted against an east or south-facing wall will work.

The other huge appeal to raising mason bees at home, especially in an urban setting where space is limited, is that mason bees are gentle. They won't sting unless they perceive extreme danger.

Beyond the simple housing requirements, there are a few important steps you can take to create the best possibility of attracting solitary bees to your backyard while ensuring they have the best chance for a full and healthy lifecycle.

- Plant native flowering shrubs and trees. They are the main food source for mason bees.
- Eliminate or reduce pesticide use.
- Provide a mud source. Mason bees require claylike mud to seal their chambers. At home, you can create such a mud source with cheap cat litter. Mix the contents with water until it has a claylike consistency. Place it in an area near your mason bee habitat and slice down into the mud with a shovel or spade to create the vertical surface for the bees to mine their mud.

Mason bee cocoons can also be purchased if you would like to get a jump-start on building their population at home.

Joe Lamp'l is the host and executive producer of Growing a Greener World on national public television.

The above article, sent to me by Richard Brewster, appeared in the April 29, 2014 Union Leader and the May 11, 2014 Columbus Dispatch (where I was able to copy it). bb



Parasitized bees are self-medicating in the wild, Dartmouth-led study finds



IMAGE: A Dartmouth-led study finds that bumblebees infected with a common intestinal parasite are drawn to flowers whose nectar and pollen have a medicinal effect, suggesting that plant chemistry could help... [view more](#)

Credit: Leif Richardson

HANOVER, N.H. - Bumblebees infected with a common intestinal parasite are drawn to flowers whose nectar and pollen have a medicinal effect, a Dartmouth-led study shows. The findings suggest that plant chemistry could help combat the decline of bee species.

The researchers [previously](#) found in lab studies that nectar containing nicotine and other natural chemicals in plants significantly reduced the number of parasites in sickened bees, but the new study shows parasitized bees already are taking advantage of natural chemicals in the wild.

The study is to appear in the journal *Ecology* but may be reported now by the media. A PDF of the preprint is available on request. The study was conducted by researchers at Dartmouth College and the University of Colorado-Boulder.

Colony collapse disorder among bees has drawn much attention in recent years, but parasites are a common

natural cause of disease in bumblebees and honeybees, both of which play a vital role in agriculture and plant pollination. The intestinal parasite the researchers looked at can strongly affect their survival, reproduction and foraging behavior.

The researchers studied the effects of a group of plant secondary metabolites found naturally in floral nectar -- iridoid glycosides -- on bumblebee foraging and plant reproduction. Iridoid glycosides can deter deer and other herbivores, but the researchers' earlier studies showed the compounds have a medicinal effect on parasitized bees by reducing their parasite load.

In the new study, the researchers looked at concentrations of two iridoid glycoside compounds, aucubin and catalpol, in nectar and pollen in four populations of turtlehead, a bee-pollinated wetland plant found throughout eastern North America. They then manipulated concentrations of the chemicals in those flowers to study their effects on bee foraging.

The results showed that relative to healthy bees, those infected with the intestinal parasite greatly preferred visiting flowers with the highest iridoid glycoside concentrations. Bees attacked by a second antagonist, a parasitoid fly, did not respond in this way to nectar chemistry. The researchers also found that flowers with the highest concentrations of nectar iridoid glycosides donated significantly more pollen to other flowers following bee visits, showing that nectar chemistry can affect plant reproductive success.

"Secondary metabolites are commonly present in floral nectar and pollen, yet their functions are not well understood," says lead author [Leif Richardson](#), a former Dartmouth graduate student now at the University of Vermont. "In this study, we show that these compounds could influence plant reproduction via complex suites of interactions involving not only pollinators but also their natural enemies."

Adds senior author [Rebecca Irwin](#), a former Dartmouth faculty member now at North Carolina State University: "We show that bees might be able to self-medicate, altering their foraging behavior when parasitized so as to maximize their consumption of beneficial plant secondary metabolite compounds."

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Available to comment are co-authors Leif Richardson at leif.richardson@uvm.edu and Rebecca Irwin at reirwin@ncsu.edu.

Broadcast studios: Dartmouth has TV and radio studios available for interviews. For more information, visit: <http://www.dartmouth.edu/~opa/radio-tv-studios/>

Source: CATCH THE BUZZ

Seasonal Cycles of Activities in Colonies

A colony of honey bees comprises a cluster of several to 60,000 workers (sexually immature females), a queen (a sexually developed female), and, depending on the colony population and season of year, a few to several hundred drones (sexually developed males). A colony normally has only one queen, whose sole function is egg laying. The bees cluster loosely over several wax combs, the cells of which are used to store honey (carbohydrate food) and pollen (protein food) and to rear young bees to replace old adults.

The activities of a colony vary with the seasons. The period from September to December might be considered the beginning of a new year for a colony of honey bees. The condition of the colony at this time of year greatly affects its prosperity for the next year.

/Research entomologist, Science and Education Administration, Carl Hayden Center for Bee Research, Tucson, Ariz. 85719.

In the fall a reduction in the amounts of nectar and pollen coming into the hive causes reduced brood rearing and diminishing population. Depending on the age and egg-laying condition of the queen, the proportion of old bees in the colony decreases. The young bees survive the winter, while the old ones gradually die. Propolis collected from the buds of trees is used to seal all cracks in the hive and reduce the size of the entrance to keep out cold air.

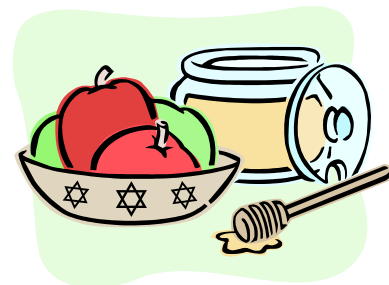
When nectar in the field becomes scarce, the workers drag the drones out of the hive and do not let them return, causing them to starve to death. Eliminating drones reduces the consumption of winter honey stores. When the temperature drops to 57° F, the bees begin to form a tight cluster. Within this cluster the brood (consisting of eggs, larvae, and pupae) is kept warm-about 93° F – with heat generated by the bees. The egg laying of the queen tapers off and may stop completely during October or November, even if pollen is stored in the combs. During cold winters, the colony is put to its

severest test of endurance. Under subtropical, tropical, and mild winter conditions, egg laying and brood rearing usually never stop.

As temperatures drop, the bees draw closer together to conserve heat. The outer layer of bees is tightly compressed, insulating the bees within the cluster. As the temperature rises and falls, the cluster expands and contracts. The bees within the cluster have access to the food stores. During warm periods, the cluster shifts its position to cover new areas of comb containing honey. An extremely prolonged cold spell can prohibit cluster movement, and the bees may starve to death only inches away from honey.

The queen stays within the cluster and moves with it as it shifts position. Colonies that are well supplied with honey and pollen in the fall will begin to stimulative feed the queen, and she begins egg laying during late December or early January-even in northern areas of the United States. This new brood aids in replacing the bees that have died during the winter. The extent of early brood rearing is determined by pollen stores gathered during the previous fall. In colonies with a lack of pollen, brood rearing is delayed until fresh pollen is collected from spring flowers, and these colonies usually emerge from winter with reduced populations. The colony population during the winter usually decreases because old bees continue to die; however, colonies with plenty of young bees produced during the fall and an ample supply of pollen and honey for winter usually have a strong population in the spring.

Source: Mid-Atlantic Apiculture Research & Extension Consortium (MAAREC)



10 natural remedies using honey

From wound salve and cough syrup to dandruff cure, honey comes to the rescue to solve a variety of body issues.

Modern man is pretty savvy – we can explore space, cure diseases and we practically have the entirety of human knowledge in our pockets. But our ancient ancestors were geniuses of the natural world. For instance, through careful scientific analysis we know that honey is packed with impressive compounds that have antioxidant, humectant, antibacterial, anti-inflammatory and antifungal properties; in fact, early Greek, Roman, Vedic, and Islamic texts all touted honey's benefits long before lab coats and spectrometry came into play.

Meanwhile, science has given us [more synthetic chemicals than our bodies](#) know what to do with. So why not kick those chemicals to the curb and follow the lead of generations past by putting honey to use for its health benefits?

With a [tip of the hat to the bees](#) that provide us with this incredible ingredient, here are just a few of the ways in which honey can be used as a potent natural remedy.

1. Wound salve . Many studies have found honey to be effective in treating wounds. In one [study](#) , a therapeutic honey and Norwegian forest honey were found to kill all strains of bacteria in wounds. And other studies confirm that honey promotes healing and in some cases, gets rid of and prevents infection when other treatments fail. WebMD advises applying honey directly to the wound or to the dressing. When used directly, apply 15 to 30 milliliters (3 to 6 teaspoons) to the wound, then cover with sterile gauze and bandages or a polyurethane dressing; change the dressing every 12 to 48 hours.

(Note: In general, the darker the honey, the stronger its antibacterial and antioxidant power.)

2. Dandruff treatment .Honey to fix dandruff? At least one [study](#) agrees. Patients with chronic seborrheic dermatitis and dandruff were given topical treatments of honey; for all of the patients, itching was relieved and scaling disappeared within one week. Skin lesions were completely healed within two

weeks, and patients showed subjective improvement in hair loss as well.

Try this at home: Mix 90 percent honey with 10 percent warm water and rub into the scalp for a few minutes. Cover with a shower cap and leave on for three hours, then rinse. Do this every other day for four weeks, after which the treatment can be done once a week to prevent relapse.

3. Cough suppressant. There's a reason so many cough medicines are flavored with honey — it's a great natural cough tamer. One study found that buckwheat honey outperformed the cough suppressant dextromethorphan (DM) in combating nighttime coughs in kids. In another study, researchers gave children with colds 2 teaspoons of honey 30 minutes before bed – they coughed less frequently and less severely when compared to those who didn't get honey. You can take honey straight to treat a cough, using between 1/2 teaspoon and 2 teaspoons, or you can make a cough syrup like this one, created by [Nurse Barb](#) for the National Honey Board:

1 1/2 tablespoons lemon zest

1/4 cup sliced ginger

1 cup water

1 cup honey

1/2 cup lemon juice

Add all ingredients except honey to a small pan, bring to a boil and simmer for 5 minutes. Strain into a heat-proof vessel. Heat honey on low, making sure it doesn't boil, and then stir it into the other mixture. Pour into a clean jar and seal. This mixture can be refrigerated for up to two months.

For children 1 to 5 years: 1/2 to 1 teaspoon every two hours

For children 5 to 12 years: 1-2 teaspoon every two hours

For children 12 and older and adults: 1 to 2 tablespoons every 4 hours

4. Eyelash balm. Because eyelashes need love too! But this formula (also from the National Honey Board) plays double-duty as an effective (not to mention affordable and natural) eye makeup remover as well.

1 teaspoon honey

3 teaspoons castor oil

Mix honey and castor oil in a sterilized, small bowl or jar and cover. Let it sit in a cool place for a week, stirring occasionally, until it reaches a smooth, homogenous consistency. Use nightly to remove makeup and make your lashes lush.

5. Burn treatment . In a number of studies, scientists have found that honey's antibacterial and anti-inflammatory properties may promote healing of small burns; and in fact, non-serious burns healed faster when treated with gauze and honey, on average, than those treated with antibiotic creams and other dressings. A [paper](#) published by the National Institutes of Health notes why honey is so effective for this – namely, because of its antibacterial action, low pH, high viscosity, hygroscopic effect, and hydrogen peroxide content. For treatment, you can follow the same instructions as those listed for wound healing above. (And of course, serious burns should be seen by a medical professional.)

6. Sunburn remedy [Sue Bee Honey](#) recommends applying honey straight to [sunburned skin](#) to promote cooling, soothing and faster healing. To hasten rehydration, try this formula:

1 teaspoon honey, 1 teaspoon olive oil, 1/4 teaspoon lemon juice

Combine the ingredients and apply to sunburned skin; leave on for 10 minutes before rinsing with tepid water.

7. Blood booster. According to the Mayo Clinic, honey may hold promise as way to prevent low white blood cell count caused by chemotherapy. In one trial, 40 percent of cancer patients who were at risk of neutropenia (very low levels of a specific white blood cell) had no further episodes of the condition after taking 2 teaspoons of honey daily during chemotherapy.

8. Face food .Honey's properties make it especially agreeable for the skin; this method will feed your face with a one-two punch of soothing [aloe](#) and healing honey. Take an aloe vera leaf and slice it open, then spread honey on the surface. Gently rub the honey side on your face for a few minutes, spreading the aloe-honey mixture evenly. Leave on for 15 minutes and then rinse with cool water.

9. Dry hair treatment . Honey's humectant qualities make it a great match for treating dry hair. This formula from Sue Bee Honey will condition even the driest of locks.

1/2 cup honey

1/4 cup olive oil (for normal to oily hair, use only 2 tablespoons oil)

Mix together oil and honey and gently work through hair. Cover with a shower cap and leave on for 30 minutes. Rinse, shampoo and style as usual.

10. Allergy fighter . The scientific jury is still out on this one, but the premise is that by consuming local honey (which naturally includes small amounts of local pollen) you can build up your immunity to seasonal allergens. A few studies have concluded that this claim has little merit, but many holistic enthusiasts heartily disagree. Either way, dosage recommendations include consuming 2 teaspoons of honey daily – and to do so with patience, proponents say it can take up to six weeks to [start working](#) .

For serious medical conditions, see your doctor. And remember, due to the risk of botulism in infants, pediatricians strongly advise against feeding honey to children until after their first birthday.

Source: Mother Nature Network website

FOR THE NEXT ISSUE OF THE NEWSLETTER...

Please send me recipes using honey, especially for holiday food gifts. Also, do you make candles, creams, lip balm and the like for holiday gifts? I'd love to write about that next time, too.

What do you get your beekeeping spouse for Christmas that has a connection to bees? Where do you shop for bee gifts?

A couple of members have mentioned that it might be time to offer club shirts once again. If there is sufficient interest, we can certainly look into doing it. And, it can include many other items besides just shirts.

**Thanks,
Barbara Burns, newsletter editor
bbbsews@gmail.com /927-4965**