

# THE MARIN BEEK NEWS

Volume 5, Issue 2

February 2013

## What You Missed

Our last meeting featured a talk by Dr. Steve Sheppard, Entomology Department Chair, Professor, Graduate Faculty Apiculturist, Thurber Memorial Chair, Washington State University. The title of his presentation was "Progress Toward a Germplasm Repository & Current Status of Honey Bee Stock Introductions". Here are highlights from his presentation, thanks to Bonnie Morse:

Cryopreservation & Germplasm Repository (a lot of this is work of his grad student, Brandon Hopkin)

- What is germplasm?
  - Collection of genetic resources for an organism (sometimes just referred to as genetics). Could be sperm or eggs. For honeybees, just sperm right now. For plants = seeds.
  - Selection in breeding = fixing what you want.
  - Honeybee eggs are relatively huge. As a result, haven't been able to viably freeze for any lengthy period of time.
  - Sperm is much smaller. Therefore, can freeze for a period of time.

- Benefits of cryopreservation
  - Conservation benefits:
    - 27 unique subspecies of honey bees – some of which have very limited ranges and some are currently in danger of extinction.
    - Can help preserve breeding lines.
    - Reconstitute subspecies
    - Long term storage (limitation for

see What You Missed on page 2

## What's the Buzz

Our next meeting will be on Thursday, January 7, 2013 at the American Legion Log Cabin, 20 Veterans Place, San Anselmo, CA. starting at 7:30 pm.

Our guest speaker will be Dr. Kirk Visscher. Dr. Visscher is an associate professor of entomology at UC Riverside. His research interests include the behavior and ecology of social insects with emphasis on honey bees, which occupy a special place among the social insects because they are among the most behaviorally complex, the most amenable for study, and of the greatest benefit to man.

### Upcoming Meetings:

#### March 7, 2013

[Kirk Webster](#). Kirk Webster is a master natural Queen Breeder living near Middlebury, VT. His queens are selected for VSH (Varroa Selective Hygiene). Colonies that display this characteristic detect infested larvae and then uncap & remove them.

#### April 4, 2013

[Heather Mattila](#). Heather Mattila is an Assistant Professor in the Department of Biological Sciences at Wellesley College. Professor Mattila's research focuses on the role that intracolony (within-colony) genetic diversity plays in the organization of communication and division of labor in honey bee colonies.

#### May 2, 2013 & June 6, 2013

TBD

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- cryogenetic preservation not known. Cosmic radiation can cause damage, but extent of damage is unknown.) Longest human cryogenic stored and still viable = approximately 20 years.
  - Cost and space saving
  - Conserve genetic diversity
- Commercial benefits
  - Breeding through time and space
  - Progeny testing (especially useful in cattle)
  - Rapid improvement in desirable traits (estimated x4)
- Cryopreservation Procedure
  - Semen collection
  - Semen dilution (breakthrough in 2010)
    - Semen loaded in cassou straws (same as type used with cattle).
    - Loaded cassou straws placed in room temperature water and then put into the refrigerator. Semen then cools slow enough to prevent damage.
    - Slowly cools to 4 degrees Celcius (reducing by 3 degrees per minute). At -40 degrees Celcius it is then stable and can be plunged into liquid nitrogen.
  - Cryopreservation
    - Bee semen loses 50% viability in a week. Have to get within a week and store. Then have one week to use it.
  - Thawing (related to freeze/thaw damage)
  - Instrumental insemination
  - Graft queens
    - In the case of bees, thaw always causes some damage to sperm. This is a problem with bees because you need 1000 +/- eggs per day, unlike with humans or cows (etc.) where you need one or very few.
- Semen being brought to WSU is from Caucasian honeybees from the Republic of Georgia.
  - Large, dark, gentle honeybees from the mountains.
  - Once prized for comb honey
  - Highly propolize and overwinter in small clusters. Because of this, commercial guys didn't like them. They don't build up as quickly as Italians and therefore aren't good for operations trying to prepare for pollination.
  - In one season, can nearly reproduce desired stock (97%).
- Future plans
  - Establish propagation and distribution system with a central genetic repository
  - Preserve germplasm from "top tier" domestic honeybee populations
  - Continue to import novel genetics from old world sources
  - Implement stock maintenance / regional breeding programs.
- Which bees??
  - *Apis mellifera* range includes Europe, Africa,

- parts of Asia. Currently, there are 28 recognized subspecies.
- Cool fact: In *A.m. capensis* (South African subspecies), a certain % of eggs can be laid by unfertilized workers and can develop into workers. Apparently, this occurs in low % in all species, but more so in this subspecies, which comes from a very windy area where queens may have trouble on nuptial flights.
- Timeline of U.S. bee introductions:
  - 1622: *Apis mellifera mellifera* (dark bee of Europe)
  - 1859: *A. m. ligustica* (only 1 beekeeper in Philadelphia, Phineas Mahan, kept them alive the 1<sup>st</sup> winter)
  - 1860: first import directly from Italy to the US of *A.m. ligustica*. Samuel Parsons imported with assistance from L.L. Langstroth. This started a long running controversy between Mahan and Parsons about who had first.
  - 1866: *A. m. lamarckii*. Was about 2/3 the size of European honeybees and is from the Nile River area.
  - 1877: *A. m. carnica* (Europe)
  - 1880: *A. m. cypria* (Middle East)
  - 1880: *A. m. syriaca* (Middle East)
  - 1880-82:
    - *A. m. caucasica* (Europe)
    - *A. m. intermissa* (Africa)
    - *A. m. scuttelata* (Africa)
  - 1922: Honey Bee Act restricted further importation (except by U.S. Secretary of Agriculture). As a result of limiting importations, founder affect and admixture occurred.
- Post 1922 importations:
  - By Secretary of Agriculture: Old World stocks of Buckfast, Russian Honeybees
  - By industry: Australia / New Zealand stocks for pollination services.
- Benefits of cryopreservation
  - Tool to preserve / disseminate "good" genetics
  - Preserve "top tier" genetics from existing bee stocks
  - Provides means for bee breeders to breed across multiple years
  - Conservation of stocks (worldwide)
  - Need additional research to evaluate storage
- Potential interface of genome research with breeding tools / trait selection
  - Marker assisted selection
    - VSH (Varroa sensitive hygiene) and grooming
    - Other new traits (e.g. chalkbrood resistance)
  - New, quick(er) field assays for traits

## Spring Beekeeping Classes

This list of classes was collected from various sources for the benefit of our members, because education is a key ingredient in beekeeping. The more you know the better you'll be.

### Introduction to Beekeeping with Serge Labesque

**Tuesdays starting February 5<sup>th</sup>**  
**6:30 pm – 9:00 pm**  
**2009 Lark Hall, Santa Rosa Campus, Santa Rosa JC**

This short course will introduce students to beekeeping with a strong emphasis on beehive management techniques as practiced in Sonoma County and without reliance on any treatment whatsoever for pests or diseases. Topics include: overview of the honey bee colony; beekeeping tools and equipment; how to start with honey bees; swarming; honey flow and harvesting of hive products; diseases, pests and enemies; hive and queen management; and beekeeping throughout the year.

**Fees:** \$88 (includes \$13.00 of materials) 4 sessions.

**To Register: Online at**  
<https://busapp02.santarosa.edu/CommunityEducation>

### Beekeeping for Experienced Beekeepers with Alan Hawkins

**Saturday, February 16, 2013**  
**9 am - 3 pm**  
**Green Gulch Farm, Muir Beach**

**This workshop is for beekeepers with at least one year of beekeeping experience.**

The honeybees are saying that spring is near. Blooms are appearing and the queens are laying lots of eggs. We will meet together and discuss what happened last year and explore the challenges that lay ahead for us this bee season. The following topics will be emphasized: What is our intention; what happened this winter; what to anticipate each season; being proactive about bee hive health; the requiring process; the swarming instinct ; hive splitting, mite management; and latest updates on bee behavior and bee health.

Wear light colored clothing and bring a veil if you have

one. A vegetarian lunch is included in the cost of registration.

Maximum workshop size: 30  
**Fees:** \$80, \$65 current SFZC members, \$40 limited income

**To Register:** Register online at:  
<http://www.sfzc.org/zc/display.asp?catid=3,128&pageid=3497>. Or call the toll free number 888.743.9362.

### Bee 201: Everything You Need To Know About Swarms! with Robert MacKimmie of City Bees

**Saturday, March 2,**  
**2 p.m. - 5 p.m.**  
**Sticky Art Lab, 1682 University Ave (at McGee), Berkeley**

If you master how to manage swarms and varroa mites, your bee hives will live long and stay healthy. This class focuses on early spring management—how to prevent your bees from swarming and instead focus their energy on honey production. It will also cover what signs to look out for that your bees might swarm soon, what to do to prevent them last minute, and finally, if they swarm, how to catch them gracefully and efficiently with the proper equipment and technique. The instructor will bring one of his hives; we'll open it up in the class and demo what to look for.

**Fees:** \$35

**To Register:** Register online at:  
<http://biofueloasis.com/workshops/>

### Intermediate Beekeeping for Spring and Summer with Serge Labesque

**Tuesdays starting March 5<sup>th</sup>**  
**6:30 pm – 9:00 pm**  
**2009 Lark Hall, Santa Rosa Campus, Santa Rosa JC**

This class will expand on the beehive management techniques that were explored during the Introduction to Beekeeping course. The focus of the class will be spring and summer management of beehives in Sonoma County. Detailed explanations of techniques that are used in apiary expansion, swarm prevention

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and capture, queen management, and hive division will be given.

**Fees:** \$53 (includes \$5.00 of materials) 2 sessions.

**To Register:** Online at  
<https://busapp02.santarosa.edu/CommunityEducation>

### **Backyard Beekeeping with Bonnie Morse**

**Saturday, March 2nd**  
**10:00 am – 2:00 pm**  
**Fairfax Women's Club, 46 Park Rd. , Fairfax**

Decided you want to keep bees? This class will help you get started: Where to place hive(s), equipment options and sources, and how to get bees. Also, basic information on cycles of colonies and what you will need to be doing with your hive at different times of the year.

**To Register:** email Bonnie:  
bonnie@bonniebeecompany.com

### **Make Your Own Mead! with Robert MacKimmie of City Bees**

**Date in April/May TBA**  
**Sticky Art Lab, 1682 University Ave (at McGee), Berkeley**

Learn the secrets to making mead--and take home your own gallon to ferment at home--at this hands-on class taught by apiarist, Robert MacKimmie of City Bees. Speculated to be mankind's first fermented beverage, mead is easy to make at home, yet fine enough to serve at special occasions (read: no better way to impress guests at your next party). Participants will mix their gallon of mead under Robert's ever-watchful eye, ensuring delicious results. The class will also discuss and review more advanced recipes for Cyser (apple and honey wine) and Melomel (fruit and honey). Best of all, plenty of tasty samples will be provided. Each participant goes home with a gallon jug of mead and recipes, ready to ferment!

**Fees:** \$60 (all ingredients & equipment provided for a gallon jug of mead)

**To Register:** Register online at:  
<http://biofueloasis.com/workshops/>

### **Beekeeping Basics with Bonnie Morse**

**Saturday, May 18<sup>th</sup>**  
**9:30 am – 12:30 pm**  
**Location TBA**

You have your bees, now what?? Learn tips and techniques for using smoker, bee brush and hive tool. We will look into how to work your frames and what to be looking for to determine health of your queen and the colony as a whole. As urban beekeepers, it is important to prevent swarming (to the best of our ability), so you'll learn what causes swarming, how to prevent, and how to recognize early warnings that a colony is making preparations to swarm.

**To Register:** email Bonnie:  
bonnie@bonniebeecompany.com

### **Fall Hive Management & Harvesting Honey with Bonnie Morse**

**Saturday, JULY 20<sup>TH</sup>**  
**9:30 am – 12:30 pm**  
**Location TBA**

Late summer can bring a variety of problems including increasing mite counts, yellow jacket problems, and lack of forage. Learn to recognize the signs and symptoms and how you can assist the colony during difficult times. Your bees will have already begun winter hive preparation. You should be thinking ahead, too: how much to reduce the hive, timing for doing so, simple things you can do to help bees during winter, signs you should recognize that your colony is in trouble. Fall is also the time of year to determine how much excess honey you can extract. We will review this as well as methods of removing frames, extracting honey, bottling honey and cleaning the wet frames.

**To Register:** email Bonnie:  
bonnie@bonniebeecompany.com

## Seventh Annual Bee Symposium



### **Pollinator Habitat and Forage**

A Benefit for Partners for Sustainable Pollination

The theme for the 2013 Bee Symposium is  
"Pollinator Habitat and Forage".

Saturday, March 9th, 2013

9:00 AM to 4:30PM

Sebastopol Center for the Arts

(formerly the

Sebastopol Veterans Memorial building).

282 South High Street  
Sebastopol, California

Tickets

\$35.00 in advance

\$40.00 at the door

For more information and to order tickets go to  
[www.beekind.com](http://www.beekind.com)

## Club Bee Order



**Installing queen cells into the nucs at Bonnie Bee & Co.**

Once again the Nuc decided to support the efforts of our club members Bonnie and Gary Morse, owners of Bonnie Bee & Company, to provide nucs with queens mated from local Marin stock.

Five deep\* frame nuc (nucleus) colonies are \$150 each and will be available late April - mid-May (weather dependent).

\*Some medium frame nucs will be available. Request when ordering.

Order your bees directly from Bonnie Bee & Company by contacting Gary Morse at [gpmorse@comcast.net](mailto:gpmorse@comcast.net), telephone: 415-699-5856.

For more information visit  
[www.bonniebeecompany.com](http://www.bonniebeecompany.com)

## NewBees 101 Class

**Saturday, April 27, 2013**  
**Rain Date: May 4, 2013**  
**10:00 AM to 3:00 PM**  
**307 Upper Toyon, Ross**

Association member Dave Peterson will be holding a beginning beekeeping class, "NewBees 101" on April 27, 2013. The class will be at his house in Ross. The class is intended for Marin Beekeeper Members who have bees but are new to beekeeping, or plan to start with bees in the spring. A donation of \$40 to the Club is required.

There will be a discussion touching on all aspects of beekeeping necessary for a beginner to get started with their own hive(s). We will spend a couple hours in discussion and then go into the apiary. NewBees 101 is intended to provide basic knowledge about bees and beekeeping but also to provide some practical experience working with the bees so as not to be intimidated when working in your own hives. Everyone will handle frames of bees. We will learn to spot the queen, identify each caste of bees, learn to recognize eggs and larva as well as capped brood cells and capped honey cells.

Reserve a spot by sending an e-mail to [dpeterson307@aol.com](mailto:dpeterson307@aol.com).

## Dues are Due

A reminder that annual dues for 2013 are now due. Dues are still just \$20 per year. You can pay in person to David Peterson at the monthly meeting or mail you check made payable to Marin Beekeepers to:

Marin Beekeepers  
c/o Mary Nordquist  
2072 Hatch Road  
Novato, CA 94947

New members and members with new contact info please make sure to include your address, phone number and e-mail.

Membership includes free admission to all meetings, access to the Club's honey extracting equipment, and subscription to the Club's "MarinBuzz" listserv, which serves as an online discussion forum and a way to notify Club members of local bee swarm information.

## Fair Exhibit Prep Workshop



### Marin Beekeepers Association

**County Fair Exhibit Preparations: APRIL 20<sup>TH</sup>, 10:30am – 2:30pm, Novato (location TBD), \$30. Register on the association website: <http://marinbees.org/wp/workshops-2/>.**

Have you ever wanted to enter you hive products in the fair but didn't know how to prepare your entries?

Join previous fair award members of the Marin Beekeepers Association to learn how to prepare your hive products for entry in the fair. Three different time slots so you can pick the workshops in which you are most interested. Choices include: preparing your honey to be award winning, processing your wax, tapered wax candle making, molded wax, how to build a simple stand for your frame honey, and more!

Half fees from this workshop will go to the Marin Beekeeper's Association.

## From The Librarian's Desk

Thanks to all the Club members who are donating materials to the library. Please stop by and see the new additions before the meeting on Thursday. For those of you who have borrowed books: Just like pollen, books need to come back to the hive to benefit the whole colony. Please bring your borrowed books back this month – everyone who returns an item on Thursday will be eligible to enter a drawing for a special prize!

## Workshops with Kirk Webster



Marin Beekeepers visit Kirk Webster's Vermont Apiaries

Our March speaker, Kirk Webster, will hold two workshops in conjunction with his visit to Marin Beekeepers. Space is limited, so don't delay!

Beginner Workshop with Kirk Webster, Saturday March 9th, 9am - noon  
\$50 per person, limit 20 people  
Basic hive inspection techniques and using your tools.

Intermediate / Advanced Workshop with Kirk Webster, Saturday March 9th 1pm - 4pm.  
\$50 per person, limit 20 people  
More advanced inspection techniques and diagnosis of pest and disease problems.

**Register on the association website:**  
<http://marinbees.org/wp/workshops-2/> or contact  
**Richard Hyde at rh@hyderanches.com**

## Time to Split

It is early in the bee season, but not too early to begin thinking about whether you want to join the Split Squad this year. This is the third year for the ad hoc, volunteer Split Squad. It was formed for those who want to learn how to split...but mostly to encourage people to find, propagate and share local survivor bees. (This means bees who can survive with NO treatment).

Here is how it worked last year:

Cynthia Perry volunteered to coordinate our Marin beekeepers who wanted to learn how to split their bees, were willing to share those splits with Marin beekeepers who had lost their bees, get a bit of money for their trouble (\$75.00), and maybe keep a split for themselves if they needed bees. Also everyone who participated (so far about 30 people) kicked in some money so we could hire a teacher like Serge Labesque or Rob Keller to come to Marin and teach us how to split. We want to have at least three classes, maybe more. ) The idea is that those who learned from the masters would go on to teach others. Some members of the Split Squad don't need a class...they just split and shared with others on their own, using our list.

We have happily provided our best genes in the form of hives or splits to Bonnie Bee as well. Cynthia feels confident that she will keep them going if they turn out to be wonderful and keep good records. We want to support a local business that is working to provide local bees to the county. For the most part, we do not support bringing bees in from other counties.

Here is how it will work, but we are refining it all the time. Our new motto is: THIS IS A CRAP SHOOT

Splitters have to be beekeepers that had bees who survived at least one year with NO TREATMENT WHATSOEVER. Feeding ok, but powdered sugar dusting, thymol, formic acid, or anything else that interferes with natural selection is not in the spirit of this experimental project. The idea is to find bees that can make it on their own and spread their genes around the county. We are very thrilled to now have bees that have survived three years. We also have had hives die. Nearly all the splits worked but some did not make it through the winter.

Splittees have to be experienced beekeepers that had bees but lost them. (Maybe we will let in the newbees this year) They must agree to care for the splits, not treat them and if they survive, to share them with other Marin beekeepers in 2014. They should also be able to teach how to split by the time their year is over.

Needless to say there are a lot of problems, highs and lows, new inventions, and unexpected developments. So if this sounds like fun and you agree not to treat your bees, please contact Cynthia OFF THE BUZZ at: [cynthiasps@gmail.com](mailto:cynthiasps@gmail.com). Cynthia will put you on the list and send out more information next month.