

# The Nevada County Beekeepers Association



## President's Message

Well it looks like old man winter is coming soon. It is raining out as I write this. Got your bees all tucked in and ready for winter? Now's the time to make sure.

We will have elections for new officers for next year at our meeting, November 1, 2010. Hope to see all of you Monday the first of Nov.

Your President, Larry Merritt

## 2011 Elections

In addition to the above President's Message, Larry also wrote: "No, I am NOT running for office again." We will be electing officers next meeting, so please consider running and let Larry know if you are interested.

## November 1<sup>st</sup> Meeting

Our program for November will be Dr. Mussen, the State Extension Apiculturist, giving his annual talk on 'State of the Hive'. Dr. Mussen's talks are always absorbing, fast-paced, occasionally sobering, many times encouraging. Don't miss this.

## NC Liquid Gold Cooperative Venture

For details on this interesting proposal, see page 5.

## Bee Bits

By Randy Oliver

We sure got lucky this fall with the weather—couldn't have been better for the bees! Just enough rain so that we've had unseasonable pollen and nectar flows, and nice warm days for the bees to work.

As I write this, I'm fresh back from starting the second Remebee antiviral medicine trial. This time we are testing the new formula, which targets most all bee viruses. Let me know if you are interested in joining in on a data collection day—we have one coming up in March or April.

The hot topic in the U.S. bee world right now is Dr. Jerry Bromenshenk's recent paper, which found that CCD colonies were marked by the presence of a new virus, plus *Nosema ceranae*. Unfortunately, a writer for Fortune magazine with a chip on her shoulder wrote an erroneous and libelous piece claiming that Bromenshenk was in Bayer Chemical's pocket. Bromenshenk has been besieged with hate mail since. The author didn't notice that Bromenshenk's main coauthors work for the U.S. Army's biochemical lab, which doesn't care one whit about Bayer. Some folk simply have a kneejerk reaction to any scientific explanation for CCD that doesn't blame it entirely upon neonicotinoid insecticides.

In addition, Bromenshenk has been hammered by other researchers who doubt his findings, although the identifications were made by the Army lab, not Bromenshenk. The Army has a new whiz-bang way of looking for pathogens, of which these

results are the first field test. If the identifications are subsequently confirmed by other labs, the method holds great promise for disease agent detection, import of breeding stock, and for agriculture.

Here is an excerpt from my upcoming article in ABJ.:

### A Novel Approach

What Wick's [Charles Wick, leader of the Army team] team did was to **download the genetic code** for every bacterium, fungus, and virus (that had been fully sequenced as of September 2008). They then used a computer program to **translate** those codes into what would be the full complement of **proteins** for each organism, which were then "digested" by the computer into the expected peptides that would be seen in the mass spectrometer. At this point they had created a theoretical "mass spectrum" for each microorganism.

However, many peptides would be identical to those of other organisms, including the bee. So the team developed another computer program to discard any peptides that were not **unique** for each specific pathogen. What was left was a "signature" of unique peptides for each microorganism. Their novel (patent pending) BACid computer program (algorithm) was then used to search for these microorganism signatures in any processed bee sample, and assign them by standard taxonomic classification, often right down to species and even strain (Figure 3). (Buzz Editor's note: figure 3 is on next page)

The developers of the method suggested that it might "function as a strong complement to the alternative approaches of comparing microbial genomes based on DNA sequencing or microarray hybridization techniques" (Dworzanski 2006). And indeed it does, some major advantages of the method being:

- It is very rapid, and most of the work is done by computer.
- The approach allows for the detection, quantification, and classification of fungi, bacteria, and viruses in a single analytical pass.
- Classification can be to strain level and is limited only by the level of precision within the proteomic and genomic databases.
- It isn't dependent upon the often tricky chemistry involved in standard genomic methods.
- Instead of using a limited number of genetic primers, it uses hundred of confidently identified peptide sequences derived from entire genomes.
- The signature isn't likely be misled by single point mutations, as such changes would likely affect peptides less than they would affect primers.
- This technique appears to be a major breakthrough for pathogen identification. The Army's pretty proud of it! As more bacteria, fungi, and viruses are sequenced each year, their proteomes can be added to the database. Another of the technique's beauties is that once you process a sample, the data set can be later "mined" should any new pathogens be discovered in the future—their peptide signatures will still be in the data.

Bromenshenk has been processing bee samples to save examples of the current "state of the bee" for posterity (researchers are acutely aware of the lack historical bee specimens suitable for parasite confirmation). Future researchers could then use the archived data to see how any new parasites change the dynamics of bee symbionts and pathogens, or to see whether a newly-identified virus was previously present, but merely unnoticed.

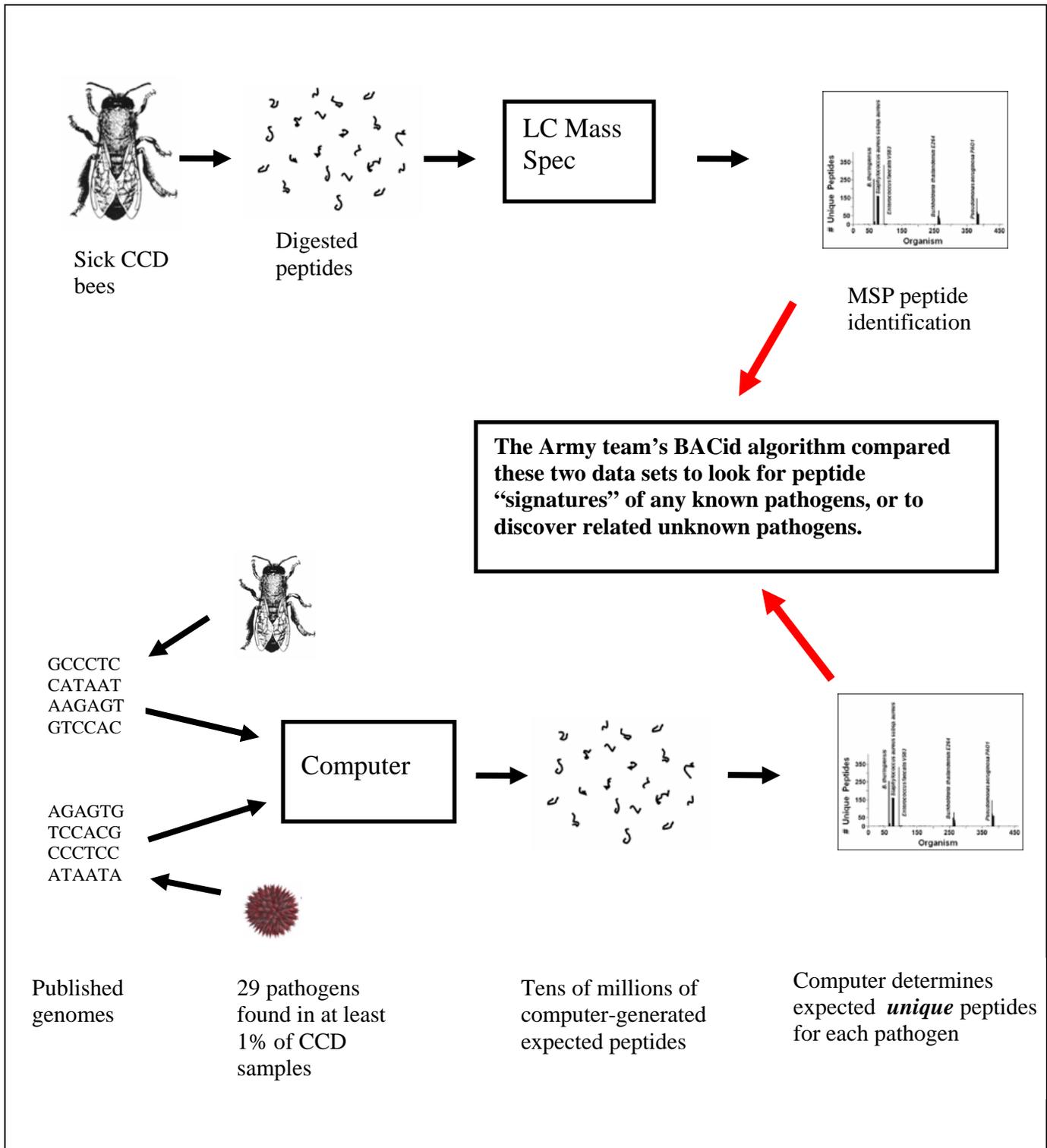


Figure 3. The upper path indicates how the Edgewood Lab processed CCD samples. The lower path is a schematic of how their novel computer algorithm generated expected peptide sequences from the published genomes of bee pathogens, and then compared them to peptides from sick bees. They could then look for the unique peptide "signatures" for each type of pathogen. For more details, see a recent paper by the Edgewood team--Jabbour (2010).

## NCBA's Famous Raffle

Don't you just love our raffles?! The creativity! The love! The beekeeping items! One person's junk is another's treasure! Don't forget: for each item you donate to the raffle you will receive a free ticket. So take a minute to look around your home, hobbies, hoards, and honey house, and bring something in. The Association treasury will benefit, and you never know what treasure you might take home in return...

## October Minutes

VP Jeremiah Farrell opened meeting with Q&A. Remarks: Fume boards need heat to disperse--best in summer heat. Star thistle honey has good taste; plum honey tastes bad. Finance, Janet Brisson- Sept start \$3336.75; Inc\$150.50; Exp\$433.35; SeptEnd\$3073.85. PROGRAM: 2nd half DVD "Vanishing of the Bees" examined whether new nicotinoid pesticides such as imicloprid induce disorientation of bees neurons so they cannot return to hives, and may increase susceptibility to parasites and viruses.

## For Sale: Country Rubes Combo Screened Bottom Boards

Special NCBA Club Price!  
Call Janet for details. 530-913-2724 or email at [rubes@countryrubes.com](mailto:rubes@countryrubes.com).

## Reviews from the Librarian

By Tynowyn Slattery

We had a bonanza of new books this month thanks to Randy and Janet.

The first, The Complete Idiot's Guide to Beekeeping by Dean Stiglitz and Laurie Herboldsheimer, owners of a commercial business in the eastern part of the US, is a 200 page, smaller format book, with a treatment free slant. It has fewer pictures than the popular, Beekeeping for Dummies, but it is logically laid out and covers an

amazing amount of material with good simple definitions, a glossary, several appendices and a good index, which I'm always happy to find in a book.

I think this book would be especially helpful for apifiles who just want to know more about the little critters and/or those who are thinking about getting a hive and need an idea of the work involved.

Janet ran across a hard to find copy of Beekeeping at Buckfast Abbey (we have the DVD that accompanies the book also) by Brother Adam, a Benedictine monk who joined Buckfast Abbey located in the south of England when he was only twelve. He went on to breed the Buckfast bee and become noted for his early genetic breeding program after disease wiped out the English Black Bee.

It is a conversational book written in the slower style of the early parts of the last century about the trials of beekeeping in a different place and a different time than our own but I regard it as I do many of our older library books as philosophy and history as much as instruction or science.

Which brings me to Nobel Prize winning Belgian poet, dramatist and twenty year beekeeper Maurice Maeterlinck's The Life Of The Bee. This book, which follows the life of the hive through a year, is more philosophy than anything else. If anthropomorphism gets your tail in a knot, maybe this book isn't for you, but for anyone else, it is certainly worth the time to read about, as he puts it, "...the most orderly society on Earth...and how mankind has entered into its world." Maeterlinck wrote around the time that Darwin's Theory of Natural Selection was causing a huge reaction and re-assessment in many scientific and philosophical disciplines and in retrospect his style approaches the mystical at times but that sympathetic ability to enter into the perspective of the "other" is paradoxically, what might just be the thing that keeps humankind "humane."

In its 159 pages there is a lot of material to think about and I'd be surprised if every beekeeper hasn't had some reflection on these meditations on the hive/human interface, it's just a pleasure to read how a master of literature puts it.

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## Nevada County Liquid Gold Cooperative Venture

Scot Sestic, general director and manager of the Nevada City Liquid Gold project, came to our October meeting to tell members about the 'Liquid Gold' Cooperative Venture. Scot plans to turn the Alpha Building in Nevada City into a local cooperative market venue that is also a gathering and learning place, all centered upon local products. One element of the 'liquid gold' concept is a local beekeeping space featuring honey and bee products made by or from local small and hobby beekeepers. The vision includes not only sales of honey, bee products, and cosmetics, but also a cooperative kitchen for recipe development and tastings, observation hive, extraction demonstrations, children's activities, and the like. Scot is willing to provide the organization necessary to pull participants together, and needs beekeepers and makers of bee products. He is actively seeking interested people and ideas and would like to hear from you.

If you would like to participate, have ideas, or would like more information, contact Scot at (530) 288-3680 or 470-3147, email is [rsertic@yahoo.com](mailto:rsertic@yahoo.com). He also plans to attend more NCBA meetings.



Bobbie donated that fabulous bee jewelry to our September raffle. For wonderful holiday gift ideas, please contact her.

## Beelogsics Remebee™

Janet Brisson received the following email recently: "As you well know, in the past few years widespread and often dramatic colony declines have been experienced across the U.S. Despite the many opinions regarding the ultimate cause of these declines, there is a growing consensus in the scientific community that honeybee pathogens are a major if not critical factor in these collapses. In this regard, there is growing evidence that viruses are principal pathogens of honeybees and that they act synergistically with other pathogens such as Nosema to bring down the hive.

Beeelogsics is a technology company focused on the development of evidence-based solutions for the health of the bees.

Recently, Beeelogsics received an FDA approval to disseminate Remebee™ for investigational use and accordingly, is offering Remebee™ for sale to beekeepers who wish to use it this winter.

Remebee™ was tested under field conditions in Florida, Pennsylvania and California, and some information regarding these trials is publicly available.

If you wish to participate and treat your hives with Remebee™, please send us an email to [beekeepers@beeelogsics.com](mailto:beekeepers@beeelogsics.com) to secure a position on the priority list. This will allow us to better schedule and include you in the treatment regime, beginning in December 2010. Please include the anticipated number of hives that you wish to treat, and your contact details. You can also fax to (305) 233 7749 or alternatively, give us a call to (305) 233-6564 and we can discuss, answer questions and register you there.

Please feel free to ask questions.

Truly yours,

Nitzan Paldi, Beeelogsics Inc.

[www.beeelogsics.com](http://www.beeelogsics.com)

