

The Bee Cause



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March 2009

Points of Interest:

- Next general meeting is 7:30 Tuesday, **March 10th** at the River Heights Community Centre, 1370 Grosvenor Ave., Winnipeg.

Speaker: Merv Malyon: honey and queen producer from Brandon, will provide an enlightening presentation "Where do you find beekeepers in Thailand?" and if time permits discuss "Providing Canadian Beekeepers with Chilean queens."

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Honey Bees Can Tell The Difference Between Different Numbers At A Glance

The remarkable honey bee can tell the difference between different numbers at a glance. A fresh, astonishing revelation about the 'numeracy' of insects has emerged from new research by an international team of scientists from The Vision Centre, in Australia. "Bees can definitely recognize the difference between two, three and four – although four a little less reliably. After four, bee math seems to run out: The team found their honeybees couldn't reliably tell the difference between four dots and five or six." says Dr. Shaowu Zhang, Chief Investigator of The Vision Centre and Australian National University. The experiment also demonstrated the remarkable learning power of social insects, which have to go out foraging over long distances – the Vision Centre team has tracked bees over distances as great as 11 kilometres – and then find their way back to the hive, and out to the food source again reliably.

The ability to discriminate between different numbers is part of this navigation, perhaps as bees pass clumps of two trees or three trees on their way to the food source, or use similar patterns among flowers or other landmarks as they draw close to it, My colleague Professor Srinivasan has demonstrated that bees can count up to four landmarks on their way from their hive to a food source. This new research shows they can tell the difference between different num-

bers – even when we change the pattern, shape or the colour of the dots!" says Zhang.

"There has been a lot of evidence that vertebrates, such as pigeons, dolphins or monkeys, have some numerical competence – but we never expected to find such abilities in insects. Our feeling now is that – so far as these very basic skills go – there is probably no boundary between insects, animals and us."

In the exquisitely designed experiment, researchers led by Zhang and Professor Hans Gross and Professor Juergen Tautz of Wurzburg University in Germany, showed that bees can discriminate between patterns containing two and three dots – without having to count the dots.

To begin with, the bees spent quite a bit of time scanning the dots. On later visits they zipped straight past them,

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Minutes of the General Meeting, February 10, 2009

by the Editor

Hay it's time to renew your membership, if you haven't already done so. Membership in the RRAA is \$25 a year. Just complete the membership application (at the next meeting) or the one in the February issue and provide to John Speer to get signed up. We currently have about 76 members on the mailings.

Due to icy conditions an attempt to cancel was initiated, however, 10 showed. Making the best of it we went ahead with a "Get to Know Yuh" meeting where each introduce themselves, where and how/why they are where they are with "The Bee Bug". Everyone was proud to give each other information on what stage they were at. Two were from the Short Course (U of M), and one had brought in a friend and his young son. Of course they wanted to know about getting started. We discussed where spring bees could be bought, and the pricing. We had a bit of a Q & A evening. We touched on what to look for in a hive as disease, parasites and infections and what to do, including feeding and the utilization of crystal honey frames.

Brian had asked about beekeeping in Cuba, so Marg explained the practice and the authoritative bureaucracy there. Marg also had an opportunity to explain the protocol of a bee inspector, as well. All in all, it was an excellent information sharing session.

Big Kudos' to Marg, Ken, Brian Smith, Nelson Szwala and John Speer and Lynda Marshall for whipping up a quick info session and the impromptu meeting. It was a pleasure for each to get to know each other as well as the new enthusiasts; Rory (course last year, I think) and Erik Rafnson, Glenn Lewer (course), Rick Robertson (course). If you weren't there, you missed a good one!

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On the bright-side always keep your hive tool on yuh!

Monitoring Your Colonies

The Bee Line Victoria BC

To optimize the chances of survival and strong spring build- up, colonies must have plenty of food reserves and relative freedom of disease. In the earliest part of spring when it is at least 10°C, wind-still and dry, take a quick look at your colonies. There is no need to break up the cluster but have a quick glance whether the colony is alive by checking bee activity on the top of box 2. The warmth at the inner cover will attract many bees but a quick glance is not enough to determine population size. You may want to crack the second box, tilt it back and have a look at any bee activity between box 2 and 1. If there are plenty of bees, you have a strong colony. Strong colonies may also go hungry quickly and it is important they have access to ample food. Gauge the weight of the hive by tilting it gently and if it appears light, start feeding sugar syrup. To stimulate brood rearing, place a pollen patty on the top of the bars. But with all the news about diseases, it is equally important to look for disease symptoms. It is difficult to inspect your colonies thoroughly when it is still cold and wet. Not only will the cold air increase the risk of chilled brood when removing brood frames, but the heavy clustering of bees on the brood will make visual inspection

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difficult. However, the colony can be inspected for several diseases without disturbing the cluster.

Nosema. If there are fecal deposits near the hive's entrances and many dead bees on the bottom board, the bees may be suffering from Nosema. This may be more likely if the bees were not given fumagillin last fall. If there is an abundance of fecal material, collect about 20-30 adult bees, place in a paper bag (never plastic) and keep it in the freezer for a couple of days. You may mail the marked sample in small container to the Provincial apiculture Lab in Winnipeg for Nosema confirmation and level of infestation. (Note: please make sure to keep the sample dry during shipment to prevent mould growth).

In case your colonies are found to have Nosema disease, fumagillin can be fed to the bees through sugar syrup. Please follow label instructions closely.

Chalkbrood. As soon as the colony starts its first brood rearing in early spring, workers will clean the brood cells and remove debris, including chalkbrood mummies. Chalkbrood is caused by the fungus *Ascosphaera apis* which attacks honey bee larvae and the disease is most prevalent in the spring. The larval body is infiltrated by the mycelium of the fungus which will turn it into a hard mummy-like remnant. An infected colony will have an accumulation of mummies on the bottom board. To reduce the cycle of re-infestation, the bottom board should be scraped clean and the debris removed from the apiary. Scorching can also add to the efficiency of this decontamination procedure latter. While there is no drug or product available to control chalkbrood disease, some colonies are more prone than others. The heritable trait of hygienic behaviour, expressed by the strong impulse of cell cleaning, may be present in some bee stock and not in others. Replacing the queen from a different breeder often helps to reduce the infestation. Please don't replace the queen until the weather gets a bit warmer.

Varroa. After the bottom board

has been scraped clean, it is possible to assess the presence of Varroa mites in the colony by installing one or two strips of Apistan, CheckMite or Apivar ((amitraz) note the April timeline cut-off of its use) in the top super for 24 hours. Place a sticky board on the bottom board and remove for inspection 24 hours later. In the early spring, the colony doesn't have much brood yet and therefore any high number of mites collected on the sticky board at that time means that a high proportion of the little brood that is present must be infected with Varroa. In such case, the strip(s) should be left in place for the full treatment period of 42 days, as recommended by label instructions. In case you notice high colony losses please contact your provincial apiarist David Ostermann, Manitoba of Agriculture Food & Rural Initiatives who will continue to determine overall winter losses in the different beekeeping regions and across the province.

We strongly encourage producers to participate when contacted. Excerpted from article by Paul Van Westendorp in Bee Scene 6 VOLUME 25, #1 FEBRUARY 2009 with adaptation for Manitoba. Refer to January's issue and article following.

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Extension Report
David Ostermann
Manitoba Agriculture, Food & Rural Initiatives

Nosema in Manitoba

While varroa levels jumped significantly this year, levels of nosema and tracheal mite were near normal compared to the past few years, which means that some samples were found with high levels and damage was done in some cases but not significantly more than usual (see Figures). It is important to note that we've seen more nosema samples in the 'moderate' range in the past three years although this may be due to more samples being submitted voluntarily. In this article I will try to address some of the recent and important concerns and questions that beekeepers are having about nosema disease in the province.

Species - We have two *Nosema* species in honey bees in Manitoba - they are *Nosema apis* and *Nosema ceranae*. We've always known about *N. apis*, but *N. ceranae*'s identity is new to us even though we've had it in the province for at least 10 years. We know this because last year, a sample stored at the University of Manitoba since 1998, was found to have *N. ceranae*. *Nosema ceranae* has now been identified in all regions of the province, and there is a theory that *N. Ceranae* is out-competing and displacing *N. apis* but we don't know for sure. Does this new identification put us at greater risk suddenly? Awareness doesn't increase risk (although it may cause some more sleepless nights), but it does raise important questions about how these species may differ and what that means in practical terms. *Nosema ceranae* has also been documented throughout Canada and the U.S. Tests are currently being conducted to tell us more about how the two *Nosema* species differ.

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Editor's Note by Ken Rowes

"Such a good girl!" Yes I've so often said as I watched my bees go and come with industrious patronage giving their all with a zeal to relate. Wish I could and others too. Over the years many of the RRAA membership did just that. There's a connectivity to be associated with other beekeepers for fun as well as for the art of the honey business. New challenges exist but many of the old persist even the ways to handle them, that's the advantage of the RRAA to share and care about the small and big issues. The 45th nostalgic event could not stop the urge to ponder the apiculture articles.



Walter Wright a RRAA founder and our President Charles target interests on this special occasion.



The CLASSIFIEDS

1. For Sale: Strong 5 frame nucs, some with laying queens \$150; 4 frame nucs \$125; 3 frame nucs \$110.

Available approximately May 15 weather permitting.
Ph Dennis Ross 878-2924

2. For Sale: Made 2009 well established Strong –Healthy 4-frame nucs with queens bred from my own gentle hardy local stock. No foulbrood, chalkbrood, noseema, tracheal mites, varroa count very very low in my apiary. Also new inner covers made of 3/8" plywood with outer rim 7/8" x 7/8" pine \$7.50.

Ph Ted Scheuneman 338-6066, West St Paul

3. For Sale: Frames of brood and bees, also nucs available after May 15, 2009. Ph Mike Grysiuk at (204)831-0691, (204) 330-1714 or (204)799-7973

4. For Sale: 4 and 5 frames nucs available with 2008 queens. Contact Lance Waldner 433-2517, cell 712-6783 or lancewld@gmail.com

The Bee Cause is the official publication of the Red River Apiarist Association for distribution to its members and their colleagues in the beekeeping industry. It is published eight times a year on a monthly basis excepting December and the summer months of June, July, and August when membership meetings do not occur.

Articles can be best submitted in HTML or RTF formats as email attachments. Though they may be edited for spelling and basic grammar, no changes will be made to their contents, message and opinions. They are those of their originator and not of the Red River Apiarist Association.

Deadline for any submission to this newsletter is the second Saturday preceding the membership meeting to allow for publishing and mailing delays. Regular membership meetings are normally scheduled 7:30 PM on the second Tuesday of every month at the River Heights Community Centre located at 1370 Grosvenor Avenue in Winnipeg except the months as noted above.

The Red River Apiarist Association, formed in 1963, represents the beekeepers of the Red River Valley and environs in southern Manitoba. The association provides a forum for the promotion of sound beekeeping practices through education, networking opportunities, meetings, field days, workshops, presentations by local apicultural experts, as well as the dissemination of this monthly newsletter.

We are on the Web

www.geocities.vcom/e4g/

RRAA Celebrates 45 Years!

(It's not all about the Bees – It's also about You!)

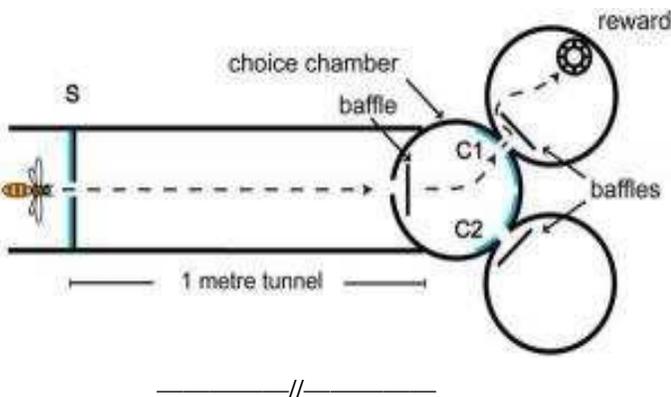
As RRAA approaches its 46th anniversary, March 26, 2009, it may be worthwhile reminiscing over our celebrations from last year. The following is the article prepared to highlight our anniversary party this last fall. Fifty-four people gathered, Monday, November 10th, 2008 at the Texas Connection on Pembina Highway, to celebrate the 45th Anniversary of our organization. The evening began with beekeepers, their partners and families, mingling to talk about harvests, bees and the season. Many participated in the silent auction, the proceeds of which went to Bee Research.

Charles Polcyn, our President and M.C. for the evening, asked several long-time and former members to say a few words. Charles also remembered several deceased members who had been significant to our organization: Larry Giguere, Allan King, and Dr. Cam Jay. (continued on page 6)

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once they knew what they meant. "We think the bees are using two memory systems," Dr. Zhang says. "First is working memory, which they use to recall the number of dots that point to the reward. The second system is to use memory rules. We found this out by changing the pattern of the dots - but the bees still managed to locate the reward." Careful control over the experimental environment showed the bees were not using colour, smell or other clues to find their way to the hidden sugar-water reward, says Dr. Zhang. "My colleague Professor Srinivasan has demonstrated that bees can count up to four landmarks on their way from their hive to a food source. This new research shows they can tell the difference between different numbers – even when we change the pattern, shape or the colour of the dots!"

The tantalising question is whether bees can actually perform elementary arithmetic - and Zhang and his colleagues are already planning an experiment to explore it!



(Extension Apiarist's Report continued from page 3)

Nosema Treatment - Perhaps most importantly though is that both species respond to the antibiotic Fumagilin-B. Therefore, where nosema disease is a problem, Fumagilin-B should be used. Tests are currently being done to determine whether current recommendations for specific treatment are still completely effective. Information on how to use Fumagilin-B can be found on the product's label or Medivet's website at <http://www.medivet.ca/medivet/products/fumagil.htm>. According to the Company, the volume of syrup that is used is perhaps less important than making sure the colony gets a full dose (amount of active ingredient), and I believe research is cur-

rently being conducted to confirm this. The current withdrawal period is 4 weeks. Also, the disinfection or replacement of old comb and/or the introduction of new foundation removes and reduces disease risk. More information can be found on the CAPA website at <http://www.capabees.com/main/files/pdf/nosema.pdf>

Common Problem - Where a colony has a high level of nosema disease, and the comb is full of honey or bees aren't taking down feed, the Company says "Heavily infested colonies that will no longer take in syrup may be sprayed repeatedly, directly onto the bees, frame by frame with 1:1 sugar syrup (one part sugar to one part water) containing 2 g of Fumagilin-B per litre of syrup."

A recent study - A recent survey by the OBA Tech-Transfer Team of 67 Ontario beekeeping operations suggests some limits of treating for nosema disease through barrel feeding. According to the results, barrel feeding is a common practice in Ontario and the average number of nosema spores per bee (in the spring of 2008) was about 6 times higher in colonies that were treated the previous fall (2007) with Fumagilin-B using barrels, compared to treatment using hive top feeders. Untreated levels were about 15 times higher than treatment using hive top feeders. The Team noted that "the majority of beekeepers who barrel feed are commercial beekeepers that are more likely to be placing additional stresses on their colonies, such as moving bees for pollination, than side line and hobby beekeepers. Stress increases the prevalence of nosema infection." These are good comments. It is generally felt that current barrel treating may not result in the adequate treatment of those colonies that are usually weaker and need the medication the most. Beekeepers also need to be careful of unrestricted livestock such as cattle being attracted to and consuming the syrup in barrels, which has been reported in Manitoba as causing cattle to bloat and die.

Where nosema levels were near normal this year, and nosema continues to be a serious disease which can impact bee health and cause damage when levels get high, it is important to continue to monitor levels and get in timely treatments when necessary. Remember that it is important to manage levels of other diseases as well, especially varroa mite. Bee samples for nosema analysis can be sent to the Apiculture Diagnostics Lab (\$5/sample) (contact David at 945-3861 (Winnipeg)).

*** Tidbit from our distant president: on a bamboo hillside 8 were collecting a 3 x 1.5 ft Apis Dorsata honey comb with two 4 ft. smokers. While several held the two smokers from below with flames roaring out the rear and smoke up out at the bees another climbed out on the sturdy branch to cut and grab the comb. With much ado and few stings the comb was collected and for Charles the climb up and sliding on the hill was more bruising the ego than the bees. The comb of heavy wax held open honey with a +28% moisture count and the capped honey 23%. No varroa in the small sample. More when he gets back. ***

Presidents Comments

My greetings to all of you from the South China Sea area on the northern part of Luzon Island in the Philippines. The weather is a balmy 25 or so, with 20 degrees Celsius being considered quite cold here. The bees are very easy to work with, as barely any smoke is used at all, much less a veil or bee suit.

Varroa mites are a serious problem, as they are a part of the local bee populations, *apis cerrana* and *apis dorsata*. Both of these bees produce some honey and have always co-existed with the varroa mite. But they don't manage easily or at all.

Honey prod auction here takes place in this area from March to April, and then again in November to December with dearth periods in between. Right now most hives have at most 4 to 5 frames of bees, no drones seen and obvious signs of mite damages. Honey production is in the 10 to 20 kg range per year. Which means that the locally produced quality honey is soon sold out, and then the sugar blends of honey appear in the market.

One treatment beginning to be used here for varroa control is the use of powdered sugar dusting on a 7 day cycle, to loosen up the mites from the bees which then fall down thru the screened bottom boards. The screened bottom boards have been only used here the 2 to 3 years, as they were suggested by a visiting beekeeper on holiday in this area. Perhaps this would be an alternative to strips of any kind.

More information in the future as I begin to learn more about tropical beekeeping methods and challenges such as flocks of 20 to 300 birds swooping down on apiaries to collect bees on the wing. Slingshots don't work that well, and fireworks are expensive.

My thanks to Margaret Smith and Jack Lee who are stepping down from their positions on the RRAA Executive. Your work and contributions were appreciated by all of us. And a welcome to Ken Rowes and Brian Smith who have joined the newly elected executive.

Best wishes to all from San Fernando, a nearby surfing city on this coast. I haven't tried it yet as I have been too busy and the waves are big.

Charles Polcyn- RRAA President

(45 Years continued from page 4)

Ken Rowes, a member since 1966, spoke of his early introduction to bees and the organization. Walter Wright, one of the two remaining founders, told stories of becoming interested in bees while handling packages at Eaton's, then RRAA's goal to start 5-6 local groups. Walter then asked his cousin, Bev Clark to help share early pictures and memories. Don Dixon, former Provincial Apiarist, emphasized the importance of the educational, training and social aspects of RRAA. Rhéal Lafrenière, Provincial Apiarist with MAFRI, noted he represents the next generation of beekeepers, and told how he was attracted to the passion of people staffing the Honey Show. Shirley Rudiak related her experiences of being a beekeeper's wife, and the pride that comes with promoting a healthy food industry. Jim Campbell, who's served 26 years on the executive, noted our group strength is developing friendships through connecting new and senior beekeepers. Jim acknowledged the presence of Guy Chartier, CEO of Bee Maid Honey, and his family, plus Randy Lewicki, also from Bee Maid, who's judged honey for many years for our Honey Show, and who was here with his fiancé. Ron Rudiak, 30 years on the Executive, commented on the diversity of our group, and their willingness to share stories. Ron also recognized the significance of support from the Extension Apiarists and the University.

After a delicious buffet, tea and coffee were shared with a celebration cake. The evening closed with the Silent Auction draws and more visiting. The winners of the silent auction were:

Screened Bottom Board: Stu Marshall; Gloves & a Hive Tool: Rob Smith; Woven Hat and Tie Veil: Linda Ross
Gloves & a Hive Tool: Sandra Smith; Hat, Veil and Hive Tool: Neil Vander Put; Smoker: Verna Polcyn; Copy of Prairie Gold: Rhona Porter; Quebec Bee Escape: Bev Clarke
Honeys from Columbia, Nova Scotia and Hungary: Randy Lewicki
Honeys from China, Armenia and Thailand: Marg Smith

Many thanks go out to Martin Weber, owner of the Texas Connection, who supplied not only the bartender, but the buffet for the evening. Thanks also go to Bee Maid Honey Ltd. for their contributions to our Silent Auction, along with the Red River Apiarists' Association, and Charles Polcyn. Thanks to John Badiuk who arranged for the cake decorated with skeps and bees (it was beautiful and delicious!) Thanks also goes to Marg Smith, who set up and ran the Silent Auction and the rest of the Executive for their planning and participation in this fun and memorial event. We've had several calls from various former members, thanking us for including them in the celebration. The RRAA members enjoyed the opportunity to gather, mingle and share stories and to re-acquaint themselves while celebrating this momentous occasion.

Happy 45th, RRAA!