# Orange County Beekeepers Association

Meeting Minutes

September 14, 2023

Nancy Oglesby, OCBA President, welcomed everyone to the September meeting. The meeting was attended by 40 members (9 via Zoom, and 31 in-person at the Orange County Extension Office in Hillsborough).

Janet Staats, OCBA Vice-president, introduced our speaker, **Dr. David Tarpy**. Dr. Tarpy is an Associate Professor and Extension Apiculturist with NC State University. He is the director of the NC Master Beekeeper Program and a world-renowned researcher in honey bee biology. Dr. Tarpy's research encompasses a wide range of topics, including honey bee mating, genetic diversity, disease, and nutrition.

## Presentation: "Updates from the NC State Apiculture Program"

Dr. Tarpy began his presentation by thanking members of his lab who should take most of the credit. Currently the Tarpy lab has 16 members: 3 postdocs, 4 research associates and technicians, and 8 undergrad students, plus Dr. Tarpy. Following this, he gave us an overview of some of the lab's recently published research papers, then provided an update on extension activities, status of the new apiculture building project, and on the NSCU Endowed Professorship in Apiculture. He thanked the OCBA for their support, including monetary donations that help make all of this work possible.

### Research Highlights

How does adding pollinator habitat benefit bee communities?

Over the course of 3 years (2016 through 2018) Levenson and Tarpy documented North Carolina pollinator populations across the state at research stations where the planting of designated pollinator habitat had been recently initiated. They found a significant increase in both bee abundance and diversity. Honey bees accounted for only ~4% of the collected samples, with the majority being native bees such as bumble bees, sweat bees, carpenter bees, ground-nesting bees, leaf cutter bees, etc. This study will provide an important baseline from which to measure long-term studies of bee communities and to how to optimize the design of pollinator habitats in the future.
https://www.frontiersin.org/articles/10.3389/fevo.2023.1060834/full

Temperature and sperm viability

In work published in 2021, McAfee, Tarpy, and collaborators published a surprising finding: that cold temperatures but not heat stress negatively impact the viability of stored sperm in mated queens and therefore reduced queen performance. This finding has important implications for commercial queen rearing and migratory beekeeping operations.
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0255381#sec006

"Super Queen" project

In this interesting experiment the researchers found that augmenting the royal jelly within developing queen cells with juvenile hormone and supplemental sugars resulted in 20% larger queens ("Super Queens"). Now they are studying if this makes for higher reproductive capacity and stronger colonies.

Pesticide effects on queen quality

Milone and Tarpy's paper described the effects of pesticides in wax and pollen on queen reproduction. While there was no direct effect on queens, exposure to pesticides decreased amount and quality of royal jelly production, leading to an indirect, but still negative effect on queen quality.
https://www.nature.com/articles/s41598-020-80446-3

Tire dust pilot project

Dr. Tarpy talked briefly about this pilot project started by Dr. Daniel Rittschof of Duke University. He is asking beekeepers across the state for pollen samples from their colonies to measure "tire dust" or micro particles collected perhaps inadvertently when honey bees forage for pollen. This innovative study is essentially using honey bees as "biosensors" for an environmental pollutant.

Genetic diversity on commercial honey bee populations

Tarpy and colleagues recently published an analysis of genetic diversity and intercolony relatedness among queens and drones in commercial colonies. Their findings have implications for breeding programs. If trying to create locally adapted strains, it is imperative to maintain large, closed breeding populations to allow selection without external influences, which in practice, is very difficult to do.
https://www.frontiersin.org/articles/10.3389/finsc.2023.1112898/full

**Extension**

The apiculture program continues to provide extension and outreach support in the form of:

- BEES (Beekeeper Education and Engagement System—an online beekeeper training platform)
- BEES Academy (intensive 2 day in-person and hybrid events)
- Queen and Disease Clinic (a fee for service model offering beekeepers genotyping, pathogen screening, and queen reproduction assessments)

**Update on the new Apiculture (Bee Lab) Building**

Currently the project architects are finalizing drawings and plans. Contractor bidding is expected to begin early in the New Year, and the hope is to have move-in by early to mid-2025. The end result will be an ~7000 square foot state-of-the-art facility with functional elements including a lobby with educational displays, flexible classroom/meeting space, an apiculture library, office space, research labs, equipment rooms, honey extraction room and a walk-in freezer space for storing honey supers. Dr. Tarpy is hoping to have a landscape design incorporating pollinator gardens around the facility, but acknowledges this would require a plan for continued support and upkeep. Perhaps a collaboration with Master Gardener groups!

**Update on the Endowed Professorship**

The fundraising effort is making great progress on the needed ~$667,000 pledge needed in order to ensure an NCSU contribution to a total of $1 million. The endowed professorship will allow the creation of a permanent position for an apiculture professor at NCSU.

## Club Business:

- At the top of the meeting, OCBA member **Debbie Dupree** was recognized for achieving her NCSBA Journeyman Beekeeper certification. Congratulations!
- Nancy thanked the members who supplied the delicious potluck meal of pasta, salad, bread, and desserts (Celeste, Janet, Ginia, Nancy).
- Mary Anne reminded attendees about the upcoming **Tobacco Road Honey Classic on Saturday September 30th** at the Durham County Agricultural Extension Building (721 Foster St, downtown Durham) This event will feature a judged honey competition as well as other categories including black jar honey competition, crafts, candle making, photography, food, etc. Rules and entry classes can be found here: https://theocba.org/tobacco-road-honey-classic/
- Planning for the Youth Honey Fair event is temporarily on hold. Nancy will provide an update by the next monthly meeting.
- Lisa Vogel announced there will be a demo at the Blackwood Farm apiary at 10 am Sat Sept 16th. There will be an opportunity to see how to combine a weak colony with a stronger colony (newspaper combine), as well as mite washes and smoker lighting with different types of fuel.
- Randall announced that 2024 Bee School signups will begin in October. David Bailey asked that we provide them with flyers for both Bee School and the Apprenticeship Program, as they have had multiple people at the store enquire about these opportunities.

**Door Prizes**

There were many door prizes at tonight's meeting, including a hive weighing tool, books, a queen marking kit, shirts, hats, and other miscellaneous beekeeping items. Kent and Vicki Robertson kindly donated 4 weeks of vegetables from their CSA for the month of October as they will be unable to use it for themselves.

**Next Month's Speaker**

David Bailey will be our speaker in October. He will talk about the best ways to market your honey.

*Erika Wittchen*
*OCBA Secretary*