

Mountain Empire Beekeepers Association  
Minutes  
September 22, 2016

The meeting was called to order at 7:00 pm by Gaynell Shawver.

**Pop Quiz** questions from the August, 2016 meeting by Gaynell. Three questions were answered correctly. [See, it does pay to read your minutes!]

**Presentation:**

- Dr. Rick Fell, Professor Emeritus of Entomology at Virginia Tech talked about bee dances. Beekeepers should know about bee dances because bees tell each other where they are feeding by dancing.
- Is the dance language a true language? It is a unique form of recruitment communication; it is communication in an abstract sense. Linguists say it is not a true language because it is not culturally transmitted; language is genetically encoded. Carl von Frisch discovered the bee dance language; he began studying in 1919 and was awarded the Nobel Prize in 1973.
- To do his research, he used an observation hive, marked his bees and trained the bees to feed at a station 10 meters from the hive. During his research, he observed two dances: the round dance (the transition dance to go from RD to WD) and the waggle dance. The dance is done in the hive, in the dark, on vertical comb and/or performed on the swarm cluster for the next location.
- The round dance bee runs in small circles and reverses direction. The bee stops and offers followers some honey; go out and look around the hive. Possible sound burst tells bees of a close food source.
- The waggle dance is a direction giver and is oriented towards the sun with gravity as a reference. The bees orient on the sunset horizon. The flight line is 80 degrees to the left of the sun.
- Bees receive both direct light and scattered light; insects have pixel eyes. Direct light is seeing the sun; it's characterized by the point of maximum intensity, no polarization, and low content of ultraviolet light. Bees see polarized light, but humans can't. Patterns of polarized light in the sky enables bees to locate the sun, memorize movement patterns, use average movement of 15 degrees per hour, and monitor and extrapolate.
- To indicate distance, bees use the frequency of wagging movement, duration of circuit, length or duration of wagging, duration of sound production, and the number of sound bursts. The worker bee antennae resonate 260-280 cycles/second. The length of the waggle dance tell distance.
- How do bees measure distance from hive to forage site? Walking bees indicate longer distance; distance is measured by optic flow over the eyes. Dance accuracy is about 80% correct; further distance less accurate WD message.
- Vertical distance--the round dance; bees can't indicate up and down.
- Language of the dance varies among varieties of bees.

- Dancing improves efficiency of food source locations.

**Break.**

**Minutes.** The minutes be approved as written.

**Treasurer's Report.** Balance \$4,157.28. Filed for audit.

**Old Business:** There was no old business.

**New Business:** A motion was made, seconded and pass that Dr. Fell receive a \$200 honorarium for his presentation.

**What to do this month.**

- Check for mites--use powdered sugar, alcohol bath or soapy water roll, or use sticky board.
- Check for wax moth. If found, remove frames and burn.

Adjourned at 8:35 pm.

Respectfully submitted,

Tina Cunningham  
Secretary, MEBA