



Smithsonian Associates

Abuzz About Bees

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Tuesday, June 18, 2024 - 6:45 p.m. to 8:00 p.m. ET

"The honey bee is as far above the general run of other insects as man is above all his fellow mammals. The complexity of the social life of bees, their powers of mutual communication, their diversity in skills and employment, and their debates and decisions on policy, are so remarkable that they raise the question of the capacity of the bee for thinking."

--Vincent B. Wigglesworth, *Is the honey-bee conscious?* 1987

In this talk, I will present five short stories of discovery about the remarkable "powers of mutual communication" possessed by worker honey bees.

In story 1, we will examine the fact that honey bees and human beings share a special communication skill, one that is found nowhere else within the Animal Kingdom.

In story 2, we will see that honey bees that are engaged in collecting nectar sometimes produce a strange-looking signal, called the tremble dance, when they return to the hive. They do so to solve a problem. This problem is akin to one that we all experience from time to time while shopping for groceries: a long delay in getting through a checkout line.

In story 3, we will see that honey bees working as foragers go to sleep at night and that next morning, when one of a colony's early-bird foragers finds a bonanza food source outside the hive, she has a way to issue wakeup calls to fellow foragers that are still snoozing.

In story 4, we will see that when honey bees are grooming their bodies, they can call for help in cleaning the parts of their bodies that they cannot reach on their own. Very handy!

In story 5, we will see how honey bees functioning as their colony's water collectors stay informed about their colony's need for water, i.e., their colony's thirst.

References

1. Land, B.B. and T.D. Seeley. 2004. The grooming invitation dance of the honey bee. *Ethology* 110:1-10.
2. Klein, B.A., K.M. Olzowy, A. Klein, K.M. Saunders, and T.D. Seeley. 2008. Caste-dependent sleep of worker honey bees. *Journal of Experimental Biology* 211: 3028-3040.
3. Ostwald, M.M., M.L. Smith, and T.D. Seeley. 2016. The behavioral regulation of thirst, water collection, and water storage in honey bee colonies. *Journal of Experimental Biology* 219:2156-2165.
4. Seeley, T.D. 1992. The tremble dance of the honey bee: message and meanings. *Behavioral Ecology and Sociobiology* 13:375-383.
5. Seeley, T.D. 1994. Honey bee foragers as sensory units of their colonies. *Behavioral Ecology and Sociobiology* 34:51-62.
6. Seeley, T.D. 2024. *Piping Hot Bees and Boisterous Buzz-Runners. 20 Mysteries of Honey Bee Behavior Solved*. Princeton University Press.