Dr. Michael Richert is currently an assistant professor in the department of Integrative Biology at Oklahoma State University in Stillwater, OK. He is an evolutionary biologist and behavioral ecologist. His research at OSU focuses on animal communication, sexual selection, competitive behavior, and cognitive ecology.

**Scientist of the week**

To get to where he is today, he got a bachelor’s degree in biology. He then took a gap year before grad school. Then went to the University of Missouri for his PhD. After this he did a post doctorate. For a few years he generally focused on research and did a pre post doctorate in Wisconsin and two more in Europe. Each of these consisted of different projects. While in Ireland, his studies were about learning the behavior of birds, and in Germany, he studied grasshopper communication. While in Ireland, he got what is now his current job at OSU.

Although his current focus is on the tree frog, he sometimes researches insects. He says that this allows him always to have something to work on because frogs are seasonal creatures.

Dr. Richert said that “Probably the most exciting thing I’ve published recently is from my grasshopper work. We compared males and females in terms of how they evaluate acoustic signals, and we showed that there is a sex difference: males only evaluate the first part of the signal before responding, while females evaluate the whole thing. This makes sense based on what we know about sexual selection: males need to be speedy to be competitive and attract mates, while females are slower because they are very choosy-if any part of the song is unattractive, they will reject it.”

The article is called “Sex-Specific speed-accuracy trade-offs shape neural processing of acoustic signals in a grasshopper”. As mentioned by Dr. Richert they compared males and females in terms of how they evaluate acoustic signals.

To test the males they were able to use a recording of a female. This is very interesting because not all animals will associate a recording with a real creature. This made it easier to run the experiment, because they were able to adjust volume and have a reliable acoustic signal source. They were also able to test this experiment in a lab so they were able to control all of the sounds in the environment. An intelligent idea was to use wild caught and laboratory-reared male grasshoppers to test their theory. They mentioned that other studies had done this too, and also had found no differences between them. They tested a few different strategies to see how males would respond to females when trying to find a mate. What is very interesting about this is that the males must decide if speed or accuracy is more important.

They noticed that males who chose speed over accuracy is an indication of a higher level of intelligence during sexual selection. This was again shown through a few different strategies they used to test their theory. Their results brought them closer to the answers wanted and at the end they said “Our results point the way towards a study of evolution of sensory processing mechanisms in realistic ecological contexts and natural behaviors.” (Clemens, 7) Over all this was an interring successful experiment.

Citations

Clemens, J., Ronacher, B., & Reichert, M. S. (2020). Sex-specific speed-accuracy tradeoffs shape neural processing of acoustic signals in a grasshopper. doi:10.1101/2020.07.20.212431

Dr. Michael Richert interview By (me because I am supposed to be anonymous right now) 2 April 2021