

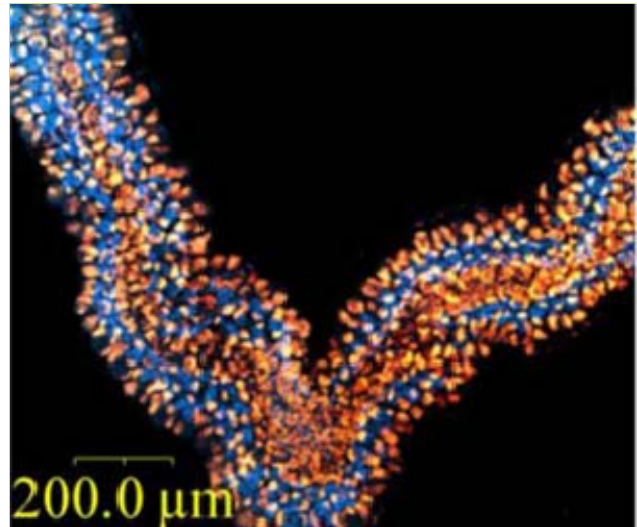


Ben-Gurion University of the Negev
Jacob Blaustein Institutes for Desert Research
The Swiss Institute for Dryland Environmental and Energy Research
Mitrani Department of Desert Ecology

Seminar

Yuval Gottlieb

Koret School of
Veterinary Medicine,
The Hebrew University,
Rehovot



Tuesday, December 11, 2018, 12:00

Seminar Room, Old Administration Building

Participants are invited to meet the seminar speaker at the MDDE meeting room immediately after the seminar (~ 13:00). Please bring your lunch; snacks will be provided.

Signed in Blood: Tick-Symbiont Interactions

Mutualistic interactions between bacteria and arthropods are based on nutritional requirements. Ticks (Acari: Ixodida) are obligatory blood feeders that vector a variety of pathogens affecting animals and humans, and host a core microbiome of co-evolved symbiotic bacteria.

The brown dog tick *Rhipicephalus sanguineus* species group hosts *Coxiella* like endosymbionts (CLE). To understand the importance of this symbiosis we used various descriptive, computational and experimental methodologies. We found a stable and high prevalence of CLE in tick populations, a specific localization in tick organs, and a reduced CLE genomes which was used to predict the symbiont metabolic profile. Using antibiotic treatment, we found that removal of CLE significantly affects the tick development and reproduction. Currently we focus on candidate metabolic products associated with the obligatory interaction between CLE and *Rh. sanguineus*.

Understanding the specific interactions between the ticks and their symbionts can shed light on tick biology and evolution.