Suggested Readings

Microbiomes and Symbiosis

Christian, N., Whitaker, B. K. & Clay, K. 2015. Microbiomes: unifying animal and plant systems through the lens of community ecology theory. *Front. Microbiol.* 6, 1–15.

- Highlights how microbiomes are communities

Costello, E. K., Stagaman, K., Dethlefsen, L., Bohannan, B. J. M. & Relman, D. A. 2012. The application of ecological theory toward an understanding of the human microbiome. *Science.* 336, 1255–1262.

- Encourages use of community ecology principles to study microbiome

McFall-Ngai, M. et al. 2013. Animals in a bacterial world, a new imperative for the life sciences. *Proc. Natl. Acad. Sci. U. S. A.* 110, 3229–3236.

- Excellent, short piece on the importance of considering microbial associates

Moran, N.A. 2006. Symbiosis. *Curr. Biol.* 16, R866-R871.

- Short piece on what symbiosis is, with a focus on insect-microbe symbioses

The Human Microbiome Consortium. 2012. Structure, function and diversity of the healthy human microbiome. *Nature* 486: 207-214.

- Original work characterizing the human microbiome

Young, E. 2016. *I Contain Multitudes: The Microbes Within Us and a Grander View of Life*. Harper Collins.

- An excellent, popular literature book on the importance of microbes in the lives of animals, including humans

Insect-Microbe Interactions

Berasategui, A., Shukla, S., Salem, H. & Kaltenpoth, M. 2015. Potential applications of insect symbionts in biotechnology. *Appl. Microbiol. Biotechnol.* 100, 1567–1577.

- Highlights some of the applied reasons for studying insect-associated microbes.

Engel, P. & Moran, N.A. 2013. The gut microbiota of insects – diversity in structure and fuction. FEMS Microbiol. Rev. 37,699-735.

- Comprehensive review of the literature on the structure and function of insect microbiota.

Futo, M., Armitage, S. A. O. & Kurtz, J. 2106. Microbiota plays a role in oral immune priming in *Tribolium castaneum*. *Front. Microbiol.* 6, 1–10.

- Role of gut microbes in shaping disease resistance in a model beetle

Koch, H. & Schmid-Hempel, P. 2011. Socially transmitted gut microbiota protect bumble bees against an intestinal parasite. *Proc. Natl. Acad. Sci. U. S. A.* 108, 19288–19292.

- Highlights role of gut microbes in insect disease resistance.

Salem, H. et al. 2014. Vitamin supplementation by gut symbionts ensures metabolic homeostasis in an insect host. *Proc. R. Soc. B Biol. Sci.* 281, 20141838.

- Gut bacteria and provide vitamins to their insect hosts.

Salem, H. et al. 2017. Drastic genome reduction in an herbivore's pectinolytic symbiont. *Cell* 171, 1520-1525.e13.

- Highlights that some beetles have very specialized relationships with microbes that are critical for nutrient acquisition

Schwarz, R. S., Moran, N. A. & Evans, J. D. 2106. Early gut colonizers shape parasite susceptibility and microbiota composition in honey bee workers. *Proc. Natl. Acad. Sci. U. S. A.* 113, 9345–9350.

- There has been a lot of recent work on bee gut microbes given concerns about bee decline.