

Xiao-Li Bing, Ph.D.

Department of Entomology

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Education

2014 Ph.D. Agricultural Entomology, Zhejiang University, China

2009 B.Sc. Plant Quarantine, Shandong Agricultural University, China

Academic Appointments

2018-present Associate Professor, Department of Entomology, Nanjing Agricultural University, Nanjing, Jiangsu, China

2016-2018 Postdoctoral Associate, Department of Entomology, Cornell University, Ithaca, NY, U.S.A.

2014-2016 Postdoctoral Associate, Department of Epidemiology of Microbial Diseases, Yale School of Public Health, New Haven, CT, U.S.A.

Research Interests

- Diversity and evolution of insect microbes
- Function of microbes in hosts
- Interactions among microbes, host insects and vector-transmitted parasites/viruses
- Insect physiology and molecular biology

Peer-Reviewed Publications (in Chronological Order)

- **Bing, X.L.**, Gerlach, J., Loeb, G., and Buchon, N. (2018). Nutrient-dependent impact of microbes on *Drosophila suzukii* development. **mBio**. 9
- Vigneron, A, Aksoy, E, Weiss, BL, **Bing, XL**, Zhao, X, Awuoche, EO, O'Neill, M, Wu, YN, Attardo, GM and Aksoy, S (2018) A fine-tuned vector-parasite dialogue in tsetse's cardia determines peritrophic matrix integrity and trypanosome transmission success. **PLoS Pathogens**. 14: e1006972

- **Bing XL.**¹, Attardo G.¹, Vigneron A., Aksoy E., Scolari F., Malacrida A., Weiss L. & Aksoy, S. (2017) Unraveling the relationship between the tsetse fly and its obligate symbiont: transcriptomic and metabolomic landscapes reveal integrated networks. **Proceedings of the Royal Society B: Biological Sciences**. 8: 20170630 (1, co-first author.)
- Wang, Z.Z.¹, **Bing, X.L.**¹, Liu, S.S., & Chen, X.X. (2016). RNA interference of an antimicrobial peptide, Btdef, reduces *Tomato yellow leaf curl China virus* accumulation in the whitefly *Bemisia tabaci*. **Pest Management Science**. doi:10.1002/ps.4472 (1, co-first author)
- Aksoy E., Vigneron A., **Bing XL.**, Zhao X., O'Neill, M., Wu Y., Bangs J., Weiss L. & Aksoy, S. (2016) Mammalian African trypanosome VSG coat enhances tsetse's vector competence. **Proc Natl Acad Sci U S A**. 25: 6961-6966. doi:10.1073/pnas.1600304113
- Wang HL., Zhang Z., **Bing XL.**, Liu YQ., Liu SS. & Wang X.W. (2015) A complete mitochondrial DNA genome derived from a Chinese population of the *Bemisia afer* species complex (Hemiptera: Aleyrodidae). **Mitochondrial DNA**. doi: 10.3109/19401736.2015.1066367
- **Bing XL**, Xia WQ, Gui JD, Yan GH, Wang XW & Liu SS (2014) Diversity and evolution of the *Wolbachia* endosymbionts of *Bemisia* (Hemiptera: Aleyrodidae) whiteflies. **Ecology and Evolution** 4: 2714-2737. doi: 10.1002/ece3.1126
- **Bing XL**, Rao Q, Luan JB & Liu SS (2014) The distribution, transmission, functions and genomics of the symbiont *Hamiltonella* of invertebrates. **Journal of Environmental Entomology** 36: 225-232. (Review: in Chinese)

(Awarded as Outstanding Research Paper Award of 2014 by the journal)
- Shan HW, Lu YH, **Bing XL**, Liu SS & Liu YQ (2014) Differential responses of the whitefly *Bemisia tabaci* endosymbionts to temperature stress. **Microbial Ecology** 68: 472-482. doi: 10.1007/s00248-014-0424-3
- Wang J, He WB, Su YL, **Bing XL** & Liu SS (2014) Molecular characterization of soluble and membrane-bound trehalases of the whitefly, *Bemisia tabaci*. **Archives of Insect Biochemistry & Physiology** 85: 216-233. doi: 10.1002/arch.21155.
- **Bing XL**, Yang J, Zchori-Fein E, Wang XW & Liu SS (2013) Characterization of a newly discovered symbiont in the whitefly *Bemisia tabaci* (Hemiptera: Aleyrodidae). **Applied and Environmental Microbiology** 79: 569-575. doi:10.1128/aem.03030-12.
- **Bing XL**, Ruan YM, Rao Q, Wang XW & Liu SS (2013) Diversity of secondary endosymbionts among different putative species of the whitefly *Bemisia tabaci*. **Insect**

Science 20: 194-206. doi: 10.1111/j.1744-7917.2012.01522.x.

(Awarded as Most Cited Paper of Insect Science in 2015 by the journal)

- Qin L, Wang J, **Bing XL** & Liu SS (2013) Identification of nine cryptic species of *Bemisia tabaci* (Hemiptera: Aleyrodidae) from China by using the *mtCOI* PCR-RFLP technique. **Acta Entomologica Sinica** 56: 186-194. (in Chinese)
- Wang J, **Bing XL**, Li M, Ye GY & Liu SS (2012) Infection of tobacco plants by a begomovirus improves nutritional assimilation by a whitefly. **Entomologia Experimentalis et Applicata** 144: 191-201. doi:10.1111/j.1570-7458.2012.01278.x.
- Rao Q, Wang S, Su YL, **Bing XL**, Liu SS & Wang XW (2012) Draft genome sequence of “*Candidatus Hamiltonella defensa*,” an endosymbiont of the whitefly *Bemisia tabaci*. **Journal of Bacteriology** 194: 3558. doi:10.1128/jb.00069-12.

Presentations

- 2017 ESA 2017 Annual Meeting, Denver, Colorado, U.S.A. (**Poster**: Nutrient-dependent impact of gut microbes on *Drosophila suzukii* development)
- 2016 2016 Baltimore Vector Encounter, Johns Hopkins University, Maryland, U.S.A. (**Group talker**: Exploring interactions between the tsetse fly and the obligate endosymbiont)
- 2016 5th Annual Connecticut Symbiosis Symposium, Yale University, Connecticut, U.S.A. (**Speaker**: Functional association between the tsetse fly bacteriome and the obligate endosymbiont *Wigglesworthia*, as revealed by dual RNA-seq)
- 2015 4th Annual Connecticut Symbiosis Symposium, University of Connecticut, Connecticut, U.S.A. (**Poster**: Transcriptome analysis of the obligate symbiont *Wigglesworthia* in different organs of tsetse fly)
- 2015 Gordon Research Conference on Tropical Infectious Diseases, Galveston, Texas, U.S.A. (**Poster**: Transcriptome analysis of the obligate symbiont *Wigglesworthia* in different organs of tsetse fly)
- 2013 2nd International Congress on Biological Invasions, Qingdao, China (**Poster**: Various prevalence of endosymbiont *Wolbachia* in invasive and indigenous whiteflies)
- 2013 1st International Whitefly Symposium, Crete, Greece (**Speaker**: *Hemipteriphilus asiaticus*, a newly-described whitefly symbiont)
- 2012 XXIV International Congress of Entomology, Daegu, South Korea (**Speaker**: Identification of a new secondary symbiont in the whitefly *Bemisia tabaci* (Hemiptera: Aleyrodidae))

- 2011 4th European Whitefly Symposium, Rehovot, Israel (**Speaker:** Diversity of secondary symbionts among different putative species *Bemisia tabaci* (Hemiptera: Aleyrodidae))

Professional Honors & Recognition

- 2016 Award of Most Cited Paper in 2015 (\$300), Awarded by ***Insect Science***
- 2015 Outstanding Research Paper Award for papers published in 2014, Awarded by ***Journal of Environmental Entomology***
- 2014 Outstanding Graduates Award, Awarded by Department of Education of Zhejiang Province
- 2014 Outstanding Graduates Award, Awarded by Zhejiang University
- 2013 National Graduate Scholarship (RMB ¥ 30 000), Awarded by Ministry of Education and Ministry of Finance of People's Republic of China
- 2013 Award of Merit Graduate, Awarded by Zhejiang University
- 2012 Outstanding Graduate Leader Award, Awarded by Zhejiang University
- 2007 National Encouragement Scholarship (RMB ¥ 5 000), Awarded by Ministry of Education and Ministry of Finance of People's Republic of China
- 2006 Award of Merit Student, Awarded by Shandong Agricultural University

Teaching

- 2012-2013 **Teaching Assistant:** Green Production and Eco-Safety, Zhejiang University, (Dr. YinQuan Liu, undergraduate general course, winter and spring semesters)

Professional Service

- 2014- present Reviewer for *Bulletin of Entomological Research*, *PLoS ONE*, and 2016 *International Conference on Agricultural and Biological Sciences*.

Additional Trainings

- 2015 Responsible Conduct of Research for Postdocs, New Haven, U.S.A.
- 2015 Animal Care & Use Yale Animal Resource Center Facility Training, New Haven, U.S.A.
- 2014 Bioinformatics Workshop for Microbiological Analysis, Beijing, China
- 2010 6th Chromatography Course in China, Hangzhou, China
- 2010 3rd Chinese EPG Workshop/Training Course, Hangzhou, China