Chun-Qing Zhao

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Research interest ： Insect Molecular Physiology and Biochemistry, mainly in GABA receptor and insecticide resistance

Biography

Dr. Zhao began studying P450 and insecticide resistance during his M.Sc. and Ph.D. with Professor Lihong Qiu at China Agricultural University in Beijing China (2007-2014). Before getting his Ph.D., he joined Professor John E. Casida's group at University of California at Berkeley in California USA to study GABA receptors (2012-2014). In 2014, Dr. Zhao joined the College of Plant Protection at the Nanjing Agricultural University to explore the neurobiology of GABA receptor with electrophysiology, RNAi, nanomaterial, etc.

Research Projects

(1) Composition and pharmacological properties of GABA receptors in the Chilo suppressalis, 2016-2018, NSFC (Grant No. 31501672);

(2) Innovation of pesticides basement: Mechanism of molecular toxicology research of rice stem borer GABA receptor, 2015-2017, Natural Science Foun dation of Jiangsu Province (Grant No. BK20150667);

(3) National Key R&D Program of China, (Grant No. 2016YFD0300700 and 2017YFD0200900);

Selected publications

1. Representative publications（# co-author；*corresponding author）

Research Gate: https://www.researchgate.net/profile/Chunqing_Zhao2

（1）**Zhao Chunqing**, Hwang Sung Hee, Buchholz Bruce A., Lightstone F elice C.*, Carpenter Tim S., Yang Jun, Hammock Bruce D.* and Casida John E.*. $GABA_A$ receptor target of tetramethylenedisulfotetramine. *PNAS*, 2014. 111 (23):8607-12. (SCI, IF 9.7)

（2）Cheng-Wang Sheng, Zhong-Qiang Jia, Yoshihisa Ozoe, Qiu-Tang Hua ng, Zhao-Jun Han, **Chun-Qing Zhao***. Molecular cloning, spatiotemporal and f unctional expression of GABA receptor subunits RDL1 and RDL2 of the rice stem borer *Chilo suppressalis*. ***Insect Biochemistry and Molecular Biology***, 20 18, 94: 18-27. (SCI, IF 3.7，2017)

（3）Zhong-Qiang Jia#, Di Liu#, Cheng-Wang Sheng, John E. Casida, Che n Wang, Ping-Ping Song, Yu-Ming Chen, Zhao-Jun Han, **Chun-Qing Zhao***. Acute toxicity, bioconcentration, elimination and antioxidant effects of fluralaner in zebrafish，*Danio rerio*. *Environmental Pollution*, 2018, 232: 183-190. (SCI, IF 5.10)

（4）**Zhao Chunqing**, Casida John E. *. Insect γ-aminobutyric acid recept ors and isoxazoline insecticides: toxicological profiles relative to the binding sit es of [^{3}H]Fluralaner, [^{3}H]-4′-Ethynyl-4-n-propylbicycloorthobenzoate, and [^{3}H]Av ermectin. *Journal of Agricultural and Food Chemistry*, 2014, 62 (5): 1019-1024. (SCI, IF 3.15. 2016)

（5）Garcı́a-Reynaga Pablo #, **Zhao Chunqing** #, Sarpong Richmond, Cas ida John E. New GABA/Glutamate receptor target for [^{3}H] Isoxazoline insectici de. *Chemical Research in Toxicology*, 2013, 26 (4): 514-516. (# Co-first author; SCI, IF 3.67)

（6）**Chunqing Zhao**, Genmiao Song, Hongxia Duan, Tao Tang, Chen Wa ng and Lihong Qiu. Heterologous Expression of *Helicoverpa armigera* Cytochr ome P450 CYP6B7 in *Pichia pastoris* and Interactions of CYP6B7 with Insecti cides. *Pest Management Science*, 2017, 73, 1866-1872. (SCI, IF 3.25, 2016)

（7）Yingchuan, Peng; Chengwang, Sheng; John E. Casida; **Chunqing, Zh ao** *; Zhaojun, Han *. Ryanodine receptor genes of the rice stem borer, *Chilo suppressalis*: Molecular cloning, alternative splicing and expression profiling. *P esticide Biochemistry and Physiology*, 2017, 135: 69-77. (SCI, IF 2.59, 2016)

2. All publications：

Research Gate: https://www.researchgate.net/profile/Chunqing_Zhao2

2018 年

（25）Cheng-Wang Sheng, Zhong-Qiang Jia, Yoshihisa Ozoe, Qiu-Tang Hu ang, Zhao-Jun Han, **Chun-Qing Zhao***. Molecular cloning, spatiotemporal and functional expression of GABA receptor subunits RDL1 and RDL2 of the rice stem borer *Chilo suppressalis*. *Insect Biochemistry and Molecular Biology*, 2018, 94: 18-27.

（24）Zhong-Qiang Jia#, Di Liu#, Cheng-Wang Sheng, John E. Casida, Ch en Wang, Ping-Ping Song, Yu-Ming Chen, Zhao-Jun Han, **Chun-Qing Zhao***. Acute toxicity, bioconcentration, elimination and antioxidant effects of fluralaner in zebrafish，*Danio rerio*. *Environmental Pollution*, 2018, 232: 183-190.

2017

(23) Sheng Cheng-Wang, Jia Zhong-Qiang, Liu Di, Wu Hui-Zi, Luo Xu-Mei, Song Ping-Ping, Xu Lu, Peng Ying-Chuan, Han Zhao-Jun, **Zhao Chun-Q**

ing*. Insecticidal spectrum of fluralaner to agricultural and sanitary pests. *Jour nal of Asia-Pacific Entomology*, 2017, 20 (4): 1213-1218.

(22）Lu Xu #, **Chun-Qing Zhao** #, De-Jin Xu, Guang-Chun Xu, Xiao-Lo ng Xu, Zhao-Jun Han, Ya-Nan Zhang, , , Zhong-Yan Gu. RNAi suppression o f nuclear receptor genes results in increased susceptibility to sulfoxaflor in bro wn planthopper, *Nilaparvata lugens. Journal of Asia-Pacific Entomology*, 2017, 20(2): 645–653.

(21) Chunqing Zhao, Genmiao Song, Hongxia Duan, Tao Tang, Chen W ang and Lihong Qiu. Heterologous Expression of *Helicoverpa armigera* Cytochr ome P450 CYP6B7 in *Pichia pastoris* and Interactions of CYP6B7 with Insecti cides. *Pest Management Science*, 2017, 73，1866-1872.

(20) Ping-Ping Song, Jun Zhao, Zong-Liang Liu, Ya-Bing Duan, Yi-Ping Hou, **Chun-Qing Zhao**, Min Wu, Min Wei, Nian-He Wang, Ye Lv and Zhao-Jun Han. Evaluation of antifungal activities and structure-activity relationships o f coumarin derivatives. *Pest Management Science*, 2017, 73 (1):94-101.

(19) Yingchuan, Peng; Chengwang, Sheng; John E. Casida; **Chunqing, Zh ao** *; Zhaojun, Han *. Ryanodine receptor genes of the rice stem borer, *Chilo suppressalis*: Molecular cloning, alternative splicing and expression profiling. *P esticide Biochemistry and Physiology*, 2017, 135: 69-77.

(18) Xu Lu, **Zhao Chun-Qing**, Xu De-Jin, Xu Guang-Chun, Xu Xiao-Lon g, Zhang Ya-Nan, Han Zhao-Jun, Gu Zhong-Yan. Molecular cloning and seque nce analysis of the estrogen-related receptor (ERR) gene in the small brown pl anthopper, *Laodelphax striatellus* (Delphacidae: Hemiptera) and its expression p rofiles under the stress of sulfoxaflor. Acta Entomologica Sinica 2017，60（3）： 264-273

(17) Xu Lu, Zhao Chunqing, Xu Dejin, Xu Guangchun, Xu Xiaolong, Gu Zhongyan. Effects of sublethal sulfoxaflor on cytochrome P450 of the small brown planthopper, *Laodelphax striatellus*. Journal of Plant Protection, 2017, 44 (4):679-686.

2016

(16) Lu, Xu#; **Chun-Qing, Zhao** #; Ya-Nan, Zhang; Ying, Liu; Zhong-Ya n, Gu. Lethal and sublethal effects of sulfoxaflor on the small brown planthop per *Laodelphax striatellus*. *Journal of Asia-Pacific Entomology*. 2016, 19: 683-6 89. (# Co-first author)

(15) Tao Tang, **Chunqing Zhao**, Li Xu & Lihong Qiu*. Factors affecting larval cannibalism in the cotton bollworm, *Helicoverpa armigera* (Hübner) (Le pidoptera: Noctuidae). *Oriental Insects. 2*016. 50(1): 23-33

2015

(14) Chunqing Zhao*, Chengwang Sheng, Yingchuan Peng and Zhaojun Han. Two NADH-cytochrome b5 reductases from the beet armyworm, *Spodopte*

ra exigua: Gene identification, cloning and expression profiles. *Journal of Che mical and Pharmaceutical Research.* 2015, 7(10):707.

(13) Weisong, Zhao; Chen, Wang; Li, Xu; **Chunqing, Zhao**; Hongwu, Lia ng; Lihong, Qiu*. Biodegradation of nicosulfuron by a novel *Alcaligenes faecal is* strain ZWS11. *Journal of Environmental Sciences*. 2015, 35:151-162.

(12) Chunqing, Zhao #; Xiaoyun, Feng #; Tao Tang; Lihong Qiu*. Isolat ion and expression analysis of CYP9A11 and cytochrome P450 reductase gene in t he beet armyworm (Lepidoptera: Noctuidae). *Journal of Insect Science*. 2015. 1 5(1):122

(11) Chunqing Zhao, Junzhao Han, Tao Tang. Research progress on bioef fect and toxicology of insecticide fluranaler and its derivatives. Chinese Journal of Pesticide Science, 2015，17(3):251-256

2014

(10) Zhao Chunqing, Hwang Sung Hee, Buchholz Bruce A., Lightstone F elice C.*, Carpenter Tim S., Yang Jun, Hammock Bruce D.* and Casida John E.*. $GABA_A$ receptor target of tetramethylenedisulfotetramine. *PNAS*, 2014. 111 (23):8607-12.

(9) Zhao Chunqing, Casida John E. *. Insect γ-aminobutyric acid receptor s and isoxazoline insecticides: toxicological profiles relative to the binding sites of [^{3}H]Fluralaner, [^{3}H]-4′-Ethynyl-4-n-propylbicycloorthobenzoate, and [^{3}H]Aver mectin. *Journal of Agricultural and Food Chemistry*, 2014, 62 (5): 1019-1024.

(8) Zhao Chunqing, Tang Tao, Feng Xiaoyun, Qiu Lihong *. Cloning an d characterization of NADPH-dependent cytochrome P450 reductase gene in the cotton bollworm, *Helicoverpa armigera*. *Pest Management Science*, 2014, 70 (1):130-139.

2013

(7) Garc á-Reynaga Pablo #, **Zhao Chunqing** #, Sarpong Richmond, Casid a John E. New GABA/Glutamate receptor target for [^{3}H] Isoxazoline insecticid e. *Chemical Research in Toxicology*, 2013, 26 (4): 514-516. (# Co-first author)

(6) Tang Tao, **Zhao Chunqing**, Feng Xiaoyun, Liu Xueyuan, Qiu Lihong. Effects of RNAi-mediated silencing of several components of cytochrome P45 0s on beta-cypermethrin toxicity against *Helicoverpa armigera*. *Acta Phytophyla cica Sinica*, 2013, 40(4): 355-362.

2012

(5) Zhao Chunqing, Tang Tao, Liu Jiqin, Feng Xiaoyun, Qiu Lihong*.Ide ntification and expression analysis of NADH-cytochrome b5 reductase gene in t he cotton bollworm, *Helicoverpa armigera*. *Gene*, 2012, 511(1): 96-102.

(4) Tang Tao, **Zhao Chunqing**, Feng Xiaoyun, Liu Xueyuan, Qiu Lihong *. Knockdown of several components of cytochrome P450 enzyme systems by

RNA interference enhances the susceptibility of *Helicoverpa armigera* to fenval erate. *Pest Management Science*, 2012, 68(11): 1501-1511.

2011

(3) Zhao Chunqing, Liu Boqian, Wang Jing, Li Nan, Qin Zhaohai, Qiu Lihong* Acute toxicity and bioconcentration of pyrimorph in zebrafish，*Brachy danio rerio*. *Pest Management Science*, 2011, 67 (9):1178-1183.

(2) Zhao Chunqing, Qiu Lihong*. Effects of pendimathalin on antioxidant and detoxified enzymes in different tissues of *Brachydanio rerio*, in the First National Pesticide Science Doctoral Symposium Proceedings, Ed (s). by Gui Zh ou University, Guiyang, 2009: 394-402.

(1) Zhao Chunqing, Qian Kun, Qiu Lihong*. Acute toxicity of different kinds of pesticides to Brachydanio rerio and their safety evaluation. *Journal of Anhui Agriculture Science*, 2008, 36(34): 15027-15028.

Honors & membership

2017, National Insect Ecology and Pest Control Youth Science and Techn ology Innovation Award, Entomological Society of China;

2015, Zi'jin Mountain Academic Rookie, Nanjing Agricultural University;

2014, Zhao Shan'huan for Youth Distinguished Academic Award, South C hina Agricultural University;

Service as Reviewer for Scholarly Journals

Reviewer for *Pest Management Science, Pesticide Biochemistry and Physio logy* and about 4 other journals of papers on pesticide chemistry and toxicolog y.