Universiteit
Leiden
The Netherlands

Convergent molecular evolution of toxins in the venom of advanced snakes (Colubroidea)

Xie, B.

Citation
Xie, B. (2022, March 1). *Convergent molecular evolution of toxins in the venom of advanced snakes (Colubroidea)*. Retrieved from https://hdl.handle.net/1887/3277031

Version:	Publisher's Version
License:	Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden
Downloaded from:	https://hdl.handle.net/1887/3277031

Note: To cite this publication please use the final published version (if applicable).

Curriculum vitae

Bing Xie was born in Zaozhuang, Shandong Province, China. After completing his secondary education in Zaozhuang, he went to the city of Tai`an to attend Shandong Agriculture University for a four-year bachelor program. He gained two majors there: Agronomy and Computer Science. Since then, he became increasingly interested in the interdisciplinary field of bioinformatics. Then, he moved to Chongqing to pursue his master study at Southwest University in bioinformatics. After two years of study, he was employed by the Beijing Genomics Institute (BGI) as a bioinformatician. During his stay at the BGI, he was involved in the research of FishT1K and marine venom with multi 'omics' methods, including genomics, transcriptomics and proteomics. After BGI, he went to pursue his PhD studies in Leiden. He was supervised by Prof. M. K. Richardson in Leiden University and Dr. B. G. Fry in Queensland University. Both promotors are experts in the field of venomics (venom studies). In his PhD work, he aimed at studying the evolution of toxins, and with a longer-term objective of developing animal venom toxins into novel therapeutics, by means of bioinformatics methods and functional assays. He also looked into the differential expression patterns of developmental genes in model animals. He is currently a postdoctoral fellow in the European Molecular Biology Laboratory – European Bioinformatic Institute (EMBL-EBI), Cambridge, UK, one of the world's leading bioinformatics institutes, to continue his passion for using bioinformatics to address major biological questions.

List of publications

Xie B, Dashevsky D, Rokyta D, Ghezellou P, Fathinia B, Shi Q, Richardson M, Fry B. 2022. Dynamic genetic differentiation drives the widespread structural and functional convergent evolution of snake venom proteinaceous toxins. BMC Biology, 20(4).

Long C, Wu F, Lu Q, **Xie B,** Shen C, Li J, Deng Y, Liang P, Yu Y, Lai R. A strategy for efficient preparation of genus-specific diagnostic antibodies for snakebites. Frontiers Immunology, 2021, p.4621

de Bakker MA, van der Vos W, de Jager K, Chung WY, Fowler DA, Dondorp E, **Xie B**, ..., Richardson MK. 2021. Selection on phalanx development in the evolution of the bird wing. Molecular Biology and Evolution 38 (10), 4222-4237

Huang Y, Bian C, Liu Y, You X, Yu H, Yi Y, **Xie B,** Shi Q. 2020. Fish Genomics. Encyclopedia of Marine Biotechnology (Book), 3, 1843-1866.

Ibrahim M, **Xie B,** Richardson MK. 2020. The growth of endothelial-like cells in zebrafish embryoid body culture. Experimental Cell Research. 392(2), 112032.

Xie B, Yu H, Kerkkamp H, Wang M, Richardson M, Shi Q. 2019. Comparative transcriptome analyses of venom glands from three scorpionfishes. Genomics, 111(3), 231-241.

Derez CM, Arbuckle K, Ruan Z, **Xie B,** Huang Y, Dibben L, Shi Q, Vonk FJ, Fry BG. 2018. A new species of bandy-bandy (Vermicella: Serpentes: Elapidae) from the Weipa region, Cape York, Australia. Zootaxa, 4446 (1), 001-012.

Hughes LC, Ortí G, Huang Y, Sun Y, Baldwin CC, Thompson AW, Arcila D, Betancur RR, Li C, Becker L, Bellora N, Zhao X, Li X, Wang M, Fang C, **Xie B,** Zhou Z, Huang H, Chen S, Venkatesh B, Shi Q. 2018. Comprehensive phylogeny of ray-finned fishes (Actinopterygii) based on transcriptomic and genomic data. Proceedings of the National Academy of Sciences, 115(24), 6249-6254.

Xie B, Huang Y, Baumann K, Fry BG, Shi Q. 2017. From marine venoms to drugs: Efficiently supported by a combination of transcriptomics and proteomics. Marine Drugs*, 15*(4), 103.

Debono J, **Xie B,** Violette A, Fourmy R, Jaeger M, Fry BG. 2017. Viper venom botox: the molecular origin and evolution of the waglerin peptides used in anti-wrinkle skin cream. Journal of Molecular Evolution, 84(1), 8-11.

Yang DC, Deuis JR, Dashevsky D, Dobson J, Jackson TN, Brust A, **Xie B,** Koludarov I, Debono J, Hendrikx I. 2016.The snake with the scorpion's sting: Novel three-finger toxin sodium channel activators from the venom of the long-glanded blue coral snake (*Calliophis bivirgatus*). Toxins, 8(10), 303.

Xie B, Li X, Lin Z, Ruan Z, Wang M, Liu J, Tong T, Li J, Huang Y, Wen B, Shi Q. 2016. Prediction of toxin genes from Chinese yellow catfish based on transcriptomic and proteomic sequencing. International Journal of Molecular Sciences, 17(4), 556.