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Evolution of molecular resistance to snake venom α -neurotoxins in vertebrates

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Curriculum Vitae

Muzaffar Ali Khan was born on June 19, 1978, in the city Khanewal, province of Punjab, Pakistan. His native language is Punjabi. In 2001, Mr Khan graduated as a Doctor of Veterinary Medicine (DVM) from the college of Veterinary sciences (CVS), Lahore. The CVS has now become the University of Veterinary and Animal Sciences Lahore, Pakistan. After his graduation in 2003, Mr Khan completed M.Sc. (Hons) in microbiology at the University of Veterinary and Animal Sciences Lahore, Pakistan. His master research thesis title was Isolation and Characterization of Canine Parvovirus. In June 2004, he became a permanent lecturer at the Institute of Pure and Applied Biology, Bahauddin Zakariya University, Multan, Pakistan. He married on November 16, 2008, and has two daughters and one son. His long-term goal was to do a Ph.D. from a prestigious international university. So, in March, 2015, he got an opportunity to do a Ph.D. as a self-funded student at the Institute of Biology Leiden (IBL) at Leiden University. He started the journey of his Ph.D. under the supervision of Prof. Michael Richardson (IBL). Mr Khan won two grants and one scholarship. One was for €13,500 from the Leids Universiteit Fonds (LUF; Elise Mathilde Fonds) in June, 2016, to conduct fieldwork in Pakistan. A second grant was the Academy Ecology Fund of the Royal Netherlands Academy Of Arts And Sciences for €5000 in October, 2018 to conduct field work in Queensland, Australia. Mr. Khan also worked as a visiting research student, the University of Queensland, Australia, from November 16, 2018, to December 17, 2018. A third grant was Leiden University Fund/Swaantje Mondt Fonds for €435 in November 2018 to study stay at University of Queensland, Australia. He was awarded a scholarship of US\$12,000 on September 17, 2018, under the programme Partial Support for Ph.D. Studies Abroad from the Higher Education Commission (HEC), Islamabad, Pakistan, for the final year of

his Ph.D. studies. . He has assisted the IBL teaching program as student assistant for the Human Evolution (minor) Skeleton Practical, Chicken Embryo Practicum and Rat Dissection practical courses. In May 2017, he travelled to the Alistair Reid Venom Research Unit, Liverpool School of Tropical Medicine, United Kingdom, to learn experimental procedures relating to the study of the snake venom gland.

Publications

1. **Muzaffar A. Khan**, Daniel Dashevsky, Harald Kerckamp, Dušan Kordiš, Merijn A. G. de Bakker, Roel Wouters, Jory van Thiel, Bianca op den Brouw, Freek J. Vonk, R. Manjunatha Kini, Jawad Nazir, Bryan G. Fry and Michael K. Richardson. Widespread Evolution of Molecular Resistance to Snake Venom α -Neurotoxins in Vertebrates. *Toxins* 2020, 12, 1-20.
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3. Christina N. Zdenek, Richard J. Harris, Sanjaya Kuruppu, Nicholas J. Youngman, James S. Dobson, Jordan Debono, **Muzaffar Khan**, Ian Smith, Mike Yarski, David Harrich, Charlotte Sweeney, Nathan Dunstan, Luke Allen, and Bryan G. Fry (2019). A Taxon-Specific and High-Throughput Method for Measuring Ligand Binding to Nicotinic Acetylcholine Receptors. *Toxins* 2019, 11, 1-11.
4. Razzaq, F., Khosa, T., Ahmad, S., Hussain, M., Saeed, Z., **Khan, M.A.**, Shaikh, R.S., Ali, M. and Iqbal, F (2015). Prevalence of *Anaplasma phagocytophilum* in horses from Southern Punjab (Pakistan). *Tropical Biomedicine*, 32(2), 233-239.
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6. Khattak R.M., Rabib M., Khan Z., Ishaq M., Hameed H., Taqddus A., Faryal M., Durrani S., Gillani Q., Allahyar R., Shaikh R.S., **Khan M. A.** & Iqbal F (2012). A comparison of two different techniques for the detection blood parasite, *Theileria annulata*, in cattle from two districts in Khyber pukhtoon khwa province (Pakistan). *Parasite*, 19, 91-95.
7. **M. A. Khan**, M. Rabbani, K. Muhammad, N. Murtaza and J. Nazir, (2006) Isolation and characterization *canine Parvovirus*. *International Journal of Agriculture and Biology*, 8 (4): 898-900
8. Naveed murtaza, Abdul Qayyum and **Muzaffar Ali Khan** (2005). Comparative Study of the Soluble Storage Proteins in *Gossypium hirsutum L. Germplasm* through Electrophoresis. *International Journal of Agriculture and Biology*. 7, 253-256.
9. Naveed murtaza, Abdul Qayyum and **Muzaffar Ali Khan** Estimation of Genetic Effects in Upland Cotton for Fibre Strength and Staple Length (2004). *International Journal of Agriculture and Biology*. 6, 1560–8530

Rear cover image: a true cobra (*Naja* sp.). Drawing by Sven Ballinge