Expanding the chemical space of antibiotics produced by Paenibacillus and Streptomyces

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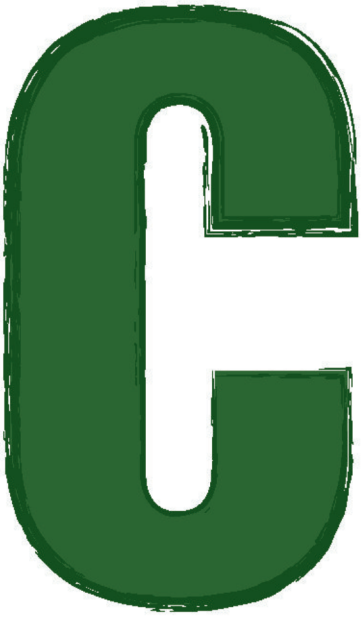

Curriculum vitae

Nataliia Volodymyrivna Machushynets was born in Litohoscha, Ukraine, on December 15, 1993. She completed her high school education at the Kivertsivska Gymnasium in Kivertsi, Ukraine, graduating with a gold medal in 2010. Afterward, she enrolled in a Bachelor of Biology program at Taras Shevchenko Kyiv National University. During her undergraduate studies, Nataliia interned at the Institute of Molecular Biology and Genetics of the National Academy of Sciences of Ukraine in Kyiv and earned her Bachelor's degree in Biology in 2014.

Driven by her passion for research, Nataliia earned a "Scholarship for talented Ukrainian students" from the TOKU-E company to pursue a Master's in Microbial Biotechnology and Health at Leiden University. During her Master's program, she conducted research internships in the labs of dr. Young Choi and prof. Gilles van Wezel, focusing on the LC-MS based metabolomics and isolation of antibacterial compounds from *Streptomyces,* and gained valuable experience in co-cultivation of Streptomyces and fungi. She obtained her Master's degree in 2017. During her Master's, Nataliia worked as a database specialist at the ResearchAnt Foundation.

In 2017, Nataliia took on the role of a scientific analyst at the Institute of Biology (IBL) at Leiden University for the Syngenopep project. She specialized in de novo peptide sequencing and nanofractionation of scorpion and snake venoms to identify new bioactive peptides.

In 2018, Nataliia started her PhD at the Institute of Biology (IBL) at Leiden University as part of the NACTAR program, which aimed to discover new antibiotics. Under the supervision of prof. van Wezel, she focused on identifying novel antimicrobial leads from *Streptomyces* and *Paenibacillus,* employing LC-MS-based metabolomic and bioinformatic approaches. Her doctoral work is detailed in her thesis.

Currently, she is continuing as a Postdoctoral Fellow under the supervision of prof. van Wezel at Leiden University and prof. Marnix Medema at Wageningen University, focusing on bioactive ribosomally synthesized peptides in the plant and human microbiome.

Publications

Machushynets, N.V., Elsayed, S.S., Du, C., Lysenko, V., de la Cruz, M., Genilloud, O., Martin, N.I., Liles, M.R., and van Wezel, G.P. Phylogeny and antibiotic producing potential of plant-associated *Paenibacillus (In preparation)*.

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Machushynets, N.V., Wu, C., Elsayed, S.S., Hankemeier, T., and van Wezel, G.P. (2019) Discovery of novel glycerolated quinazolinones from *Streptomyces* sp. MBT27. *J Ind Microbiol Biotechnol* **46**: 483-492.

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