

ABSTRACT SUBMISSION

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Dear Dr Oksana Nekrasova,

The abstract details that you have submitted are as follows:

ABSTRACT INFORMATION

Abstract Title:	Unveiling <i>Batrachochytrium dendrobatidis</i> distribution in Europe: Identifying threats and potential refuges for amphibians
ORCID No.:	0000-0001-6680-0092
Mode of Presentation:	Poster Presentation
WCH10 Student Award (Selected Category):	
Authors & Institutions:	<p>Oksana NEKRASOVA^{1,2,3}, Mihails PUPINS³, Volodymyr TYTAR², Oleksii MARUSHCHAK^{1,2}, Iryna KOZYNENKO², Andris ČEIRĀNS³, Arturs SKUTE³, Kathrin THEISSINGER⁴ & Jean-Yves GEORGES¹</p> <p>¹Université de Strasbourg, CNRS, IPHC, UMR 7178, Strasbourg, France ²I.I. Schmalhausen Institute of Zoology of National Academy of Sciences of Ukraine, Kyiv, Ukraine ³Department of Ecology, Institute of Life Sciences and Technologies, Daugavpils University, Daugavpils, Latvia ⁴Institute for Insect Biotechnology, Justus-Liebig-University Giessen, Germany</p>
Paper(s) at Symposium:	GARD24-Global Amphibian and Reptile Disease 2024 Conference GARD24-Global Amphibian and Reptile Disease 2024 Conference
Abstract Summary:	<p>Amphibians face significant threats due to climate change but also the widespread of the agent of the chytridiomycosis fungal disease <i>Batrachochytrium dendrobatidis</i> (Bd), posing severe risks to amphibians' survival. This study was aimed to uncover the influencing factors driving the geographic spread of Bd (Tytar et al., 2023) using species distribution models (SDM, BART algorithm). Our vital goals were to identify potential areas vulnerable to Bd outbreaks and to discover environmental refuges ("coldspots") from infection. Analyzing 42 diverse environmental layers comprising climate, soil, and human impact data, revealed that 'Continentality' and 'Cultivated and Managed Vegetation' were the prominent predictors of Bd distribution, especially impacting Western European amphibians' populations. Importantly, our models identified Eastern Europe (including Central and Eastern Ukraine, Belarus, and Latvia) as potential environmental refuges. Furthermore, our analysis indicated that suitable areas in Ukraine for Bd are predominantly situated in the western parts of the country, particularly within and around the Carpathian region and the marshy forest area of the Polissia zone lining the Pripyat River and its tributaries in Northern Ukraine. Given that the Carpathians and forest regions harbor the highest amphibian species diversity in Ukraine, these findings underscore the significance of protecting these regions for amphibian conservation efforts. This research serves as a foundation for future chytridiomycosis investigations and, also, underscores the urgent need for collaborative efforts among scientists, policymakers, conservationists, and the public to protect amphibian populations, especially from fungal diseases through preventive measures. This research is supported by the projects EMYS-R https://emysr.cnrs.fr and Nr.lzp-2021/1-0247.</p>