



Marta Kolanowska

ASSOCIATE PROFESSOR – UNIVERSITY OF LODZ · HEAD OF THE DEPARTMENT – UNIVERSITY OF LODZ

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Currently held positions

Department of Geobotany and Plant Ecology, Faculty of Biology and Environmental Protection

University of Lodz

ASSOCIATE PROFESSOR

Department of Geobotany and Plant Ecology, Faculty of Biology and Environmental Protection

University of Lodz

HEAD OF THE DEPARTMENT

Scientific profile and collaborations

My scientific research focuses on the **taxonomy and biogeography of Orchidaceae**, with an emphasis on Neotropical taxa. To date, I have discovered more than **400 new orchid species**, mainly from Colombia, Ecuador and Peru. I carry out extensive revisions of **herbarium** specimens deposited in various institutions around the world. I also conduct **intensive** fieldwork focusing on the biodiversity of the northern Andes.

I analyse the **effects of climate change** on rare and endangered orchids and their ecological partners - pollinators, phorophytes and mycorrhizal fungi. I integrate data on the occurrence of various organisms with simulations of future climate conditions to predict changes in the distribution of suitable niches for different species. Based on my research it is possible to estimate the location of climatic refugia that will remain relatively buffered from contemporary climate change over time, allowing the most valuable species to persist. I am also using **machine learning techniques** to assess the potential spread of invasive plants under global warming.

With understanding of the enormous biodiversity of the tropics and the still poor recognition of the local floras, I am involved in conservation projects carried out in Colombian Andes.

Selected publications

- 2021 *The impact of global warming on the niches and pollinator availability of sexually deceptive orchid with a single pollen vector* [\[link\]](#)
- 2021 *Synopsis of Ecuadorian Pterichis (Orchidaceae)* [\[link\]](#)
- 2021 *Materials to the revision of the genus Cranichis (Orchidaceae) in Bolivia* [\[link\]](#)

Research grants

Principal Investigator: 2 Polish grants (KBN, NAWA), 13 SYNTHESYS grants

Co-Investigator: 2 grants: WFOŚ, GAČR

International research stays

More than 50 study visits carried out in 38 institutions, e.g. Harvard University (**USA**), Naturhistorisches Museum Wien (**Austria**), Universidad Nacional de Colombia (**Colombia**), Royal Botanic Gardens (**UK**), Naturalis Biodiversity Center (**Netherlands**), Chinese National Herbarium (**China**).