

BASIC INFORMATION ON SUB-PROJECT

NAME OF PROGRAMME/FUND	Scholarship Fund - Sciex NMS ^{ch}
RESEARCH FIELD AND OTHER RESEARCH FIELDS INVOLVED (if applicable)	Basic Biological Research General Biology
TITLE OF THE SUB-PROJECT	Next generation sequencing and molecular evolutionary analysis in East African cichlid fishes (CICHLIDOMICS)
REGION OF THE CZECH REPUBLIC (according to the location of the home institution)	Central Bohemian Region
GRANT AMOUNT SPENT	139 128,30 CHF
INTERMEDIATE BODY	Swissuniversities
HOME INSTITUTION	Institute of Animal Physiology and Genetics, Academy of Sciences of the Czech Republic
HOST INSTITUTION	University of Basel Department of Environmental Sciences
NAME OF THE FELLOW	Zuzana Musilová

ABSTRACT OF THE SUB-PROJECT

The species flocks of cichlid fishes in the East African Great Lakes are a prime model system in evolutionary biology. Lakes Tanganyika, Malawi, and Victoria are each teeming with a unique set of hundreds of endemic cichlid species that have evolved in a few millions to several thousands of years only. The factors underlying explosive speciation in cichlids remain unclear, however. Recently, cichlids have been established as a model system in evolutionary genetics and genomics and five cichlid species are currently being sequenced at Broad Institute of MIT and Harvard. This provides entirely new possibility to study the genetic and genomic basis of the evolutionary success of cichlid fishes. In this project, we plan to make use of these new possibilities, by making use of the forthcoming cichlid genomes and applying next generation sequencing technology to obtain twelve new transcriptomes of cichlid fishes. We intend to search for special genomic features in cichlids and to test for the significance of gene duplication and copy number variation in cichlid evolution. With the evolutionary and comparative genomic analysis of new genome and transcriptome data we expect exciting new insights into the genetic and genomic basis of organismal diversification in general and of cichlid evolution in particular. The SalzburgerLab in Basel has the expertise for these kinds of analyses and access to both next generation sequencing techniques and comparative genomic analysis. This will, hence, provide an ideal training environment for the applicant, Zuzana Musilova.

MAIN RESULTS**DATE OF REALISATION OF THE FELLOWSHIP**

1.9.2011 - 28.2.2013

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