

## Research Project

### Genomic tools to study the diversity of African cichlid fishes

#### Third-party funded project

**Project title** Genomic tools to study the diversity of African cichlid fishes

**Principal Investigator(s)** [Salzburger, Walter](#) ;

**Organisation / Research unit**

Departement Umweltwissenschaften / Evolutionary Biology (Salzburger)

**Department**

**Project Website** [www.salzburgerlab.org](http://www.salzburgerlab.org)

**Project start** 01.10.2014

**Probable end** 30.09.2015

**Status** Completed

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More than 150 years after the publication of Charles Darwin's *The Origin of Species*, the identification of the processes that govern the emergence of novel species remains a fundamental problem to biology. Why is it that some groups have diversified in a seemingly explosive manner, while others have lingered unvaried over millions of years? What are the external factors and environmental conditions that promote organismal diversity? And what is the molecular basis of adaptation, diversification, and evolutionary innovation? A key to these and related questions is the comparative study of exceptionally diverse yet relatively recent species assemblages such as Darwin's finches, the Caribbean anole lizards, or the hundreds of endemic species of cichlid fishes in the East African Great Lakes, which are at the center of this proposal. More specifically, I propose to organize a joint kick-starting workshop in Basel, aiming at bringing together our African partners with local scientists and students. The research of my group focuses on two enigmatic species assemblages of cichlid fishes, the exceptionally diverse cichlid species flock in Lake Tanganyika in East Africa and young crater lake cichlid faunas in West Africa. Our main activities in Africa thus involve two priority geographical areas in the framework of the Swiss - (South) African Research Cooperation: Zambia (1d) and Cameroon (1a). While our project work in Africa is secured for the next five years through competitive international funding (erc Consolidator Grant 'CICHLIDX') and ongoing local collaborations, we continue to face the problem that our African collaborators can so far only be involved in field-collections and -experiments but have no access to even limited training options in genetics and genomics, which are central aspects of our research. I thus propose to organize a 10-days workshop in Switzerland, to which I would like to invite African scientists that collaborate with us in the field. The specific aim of this workshop is to (i) provide basic training in modern genetic and genomic tools to our African collaborators, (ii) discuss and plan our future (research) activities in Africa, and (iii) raise awareness among our African colleagues about our research in Africa but also about the study system as such. More than 150 years after the publication of Charles Darwin's *The Origin of Species*, the identification of the processes that govern the emergence of novel species remains a fundamental problem to biology. Why is it that some groups have diversified in a seemingly explosive manner, while others have lingered unvaried over millions of years? What are the external factors and environmental conditions that promote organismal diversity? And what is the molecular basis of adaptation, diversification, and evolutionary innovation? A key to these and related questions is the comparative study of exceptionally diverse yet relatively recent species assemblages such as Darwin's finches, the Caribbean anole lizards, or the hundreds of endemic species of cichlid fishes in the East African Great Lakes, which are at the center of this proposal. More specifically, I propose to organize a joint kick-starting workshop in Basel, aiming at bringing together our African partners with local scientists

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**Financed by**

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