



Inaugural lecture

Functional trait evolution in biodiversity hotspots: to adapt or to go extinct?

by Dr Renske E Onstein (Head of the "Evolution & Adaptation" Junior Research Group)

7th General Members Assembly

Lecture hall 3
Ernst-Abbe-Platz 8
Jena

18 Sept 2018,
11.15 am

Earth is currently facing the sixth mass extinction event: global changes are threatening biodiversity, especially in biodiversity hotspots such as Mediterranean-type ecosystems and tropical rain forests. Are plants able to adapt to these changes, or are they facing extinction? Has global change influenced past evolutionary radiations?

In this talk, Renske Onstein will take you on a scientific journey around some of the most biodiverse places on the planet. She tests the hypothesis that evolutionary radiations are triggered by the match between functional traits and environments: the right traits in the right place at the right time. In turn, extinction will take over when this match is disrupted. To test this hypothesis, she integrates genetic data, fossils and functional traits in a comparative phylogenetic framework. Her work shows, for example, that Old World palms with 'megafaunal' fruits (i.e. plants that rely on megafaunal animals for their seed dispersal) are adapting to global change, whereas New World palms with megafaunal fruits have gone extinct with increasing rates since the onset of the Quaternary (2.6 million years) - a period characterised by rapid global changes.

By bringing an evolutionary perspective, Onstein's work feeds particularly well into iDiv's mission of integrating space and time to understand broad-scale biodiversity patterns. Onstein will elaborate on some of the ideas and projects that she and her group members will carry out in the 'Evolution & Adaptation' group during the coming years.