The Institute of Systematic Botany & Mycology, Group Systematics, Biodiversity & Evolution of Plants at the Ludwig-Maximilians-University Munich is offering a DFG funded postdoc position in the framework of the DFG-SPP1991 TaxonOMICS.

Postdoc position

TVL-E13, 100% - for 2 years; open from 1st of March 2021

Phylogenomics, taxonomy and biogeography of Australian *Atriplex* (Amaranthaceae)

The entire project focuses on universal molecular and bioinformatics methods for a simplified exploration and description of biodiversity with species-rich lineages of Australian Amaranthaceae (incl. Chenopodiaceae) as study groups. We closely collaborate with Australian chenopod experts in Perth (D. Kelly Shepherd) and Adelaide. A modified ddRADseq approach for the phylogenetic analysis of rapidly and recently radiated species complexes is used and further refined by incorporating the capturing principle of hyRAD. Complementing the RAD based methods, we will also utilize a Hyb-Seq approach specially designed for Australian Angiosperm lineages in collaboration with Prof. M. Waycott (Univ. Adelaide). Both approaches will then be suitable for phylogenomics of degraded DNA samples aiming at the comprehensive biodiversity resources stored at museums. It is planned to complement the molecular approach with the development of an image classification tool based on neural networks to facilitate identification of taxa in the field. This is done in collaboration with the group of Prof. C. Oberprieler (Univ. Regensburg). This image-based resource will be implemented alongside already available online keys including detailed descriptions and imagery. In combination, the molecular and bioinformatics approaches will not only reveal the complex evolutionary histories of our study groups and unravel challenging species complexes within, but also serve as a sustainable resource for the next generation of taxonomists targeting the stunning diversity of life in Australia.

The postdoc project will focus on *Atriplex*, which comprises ~70 species in Australia and is of great ecological importance. In the course of climate change, increasing soil salinity and environmental destruction due to mining activities, forestry and agriculture, the xerophytic and saline tolerant species of *Atriplex* have a special role to play as a fodder plant for livestock farming and environmental restoration. Species within the genus exhibit considerable polymorphisms in leaf and bracteole shape, both on the same plant and across different populations, while hybridization within the genus is common. These and other factors combine to make the circumscription of some taxa arbitrary and identification difficult.

We are seeking a candidate interested in flowering plant systematics, taxonomy, evolution, diversification, adaptation and biogeography with PhD and a background in botany, systematics, molecular phylogenetics and evolution. Experience with bioinformatics analysis of sequence data, phylogenomics, analyses of trait evolution, historical biogeography or neural networks are beneficial. Good English language skills are required.

The position is funded in the framework of the DFG priority programme TaxonOMICS "New approaches for the discovery and naming of species" with the opportunity to attend regular meetings and workshops as well as support for lab exchanges, field work and herbaria visits.

Place of work will be the Institute of Systematic Botany & Mycology at the LMU Munich, Menzingerstraße 67, 80638 Munich, Germany.

Please submit the following (in English):
- Short Cover Letter / Motivation
- CV (incl. list of publications and the names of one or two references)
- Certificates

The submission deadline is December 13th 2020.

Please submit your application per Email (in one PDF, max. 5MB) to clausing@uni-mainz.de.
For questions please contact Prof. Gudrun Kadereit (clausing@uni-mainz.de).

The Ludwig-Maximilians-University Munich is an equal opportunities employer and particularly encourages applications from women who are under-represented in the University at this level/ in this discipline. Additionally, handicapped applicants will be preferred if equally qualified.