

The following **master's thesis** is offered at the **Institute of Botany** of the BOKU Vienna

Testing DNA barcodes in Cyperaceae species from Laos



Photos: Karl-Georg Bernhardt

Aim Cyperaceae ('sedges') are a species rich family with a worldwide distribution. Two major genera besides *Carex* L., which is concentrated in cold Holarctic regions, are *Cyperus* L. with approximately 950 species and *Fimbristylis* Vahl with approximately 300 species, two mainly tropical genera extending towards the temperate regions. The species sampled for molecular phylogenetic studies so far are not evenly distributed among tribes nor among regions of the world. To date there are few sequence data of Cyperaceae from Mainland Southeast Asia (Indochinese Peninsula) and none from Laos. In August 2018, during a student excursion of the Institute of Botany of BOKU to Laos, there was an opportunity to sample approximately 50 species of Cyperaceae. The aim of the master's thesis is to contribute DNA sequences of these taxa to the family's overall phylogeny. The focus is on sequences commonly used for barcoding such as *matK* and the rapidly evolving nuclear ribosomal internal transcribed spacer (ITS), a useful marker for species-level phylogenetic studies. Together with previously gathered DNA sequences of Cyperaceae species from Cambodia, this study should test the usefulness of barcoding markers for species delimitation and determination.

Requirements Interest in molecular genetic lab work (DNA extraction, PCR)
Interest in molecular phylogenetic analysis (use of specialized computer software)
Ideally participation in an introductory course such as 831001—Plant molecular genetics – lab course, 834312—Conservation genetic lab (in Eng.), or similar
Interest in plant systematics

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