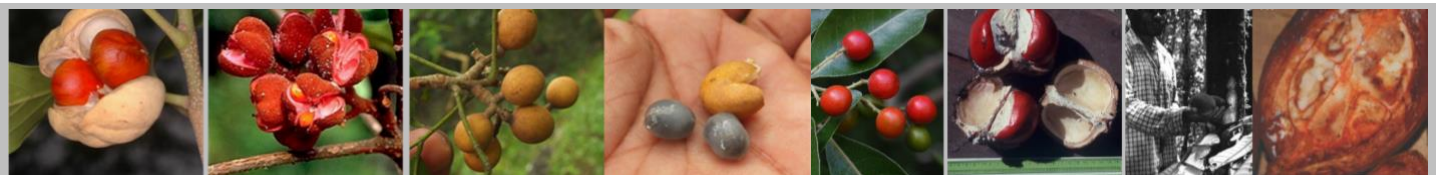


PhD position available (Ref no. AGK231103)

Did the Sunda-Sahul Biotic Exchange drive plant diversification? A study of switching disperser communities and fruit traits in *Aglaia* (Meliaceae)

The Sunda continental shelf (including Peninsular Malaysia, Brunei and parts of Indonesia) and Sahul continental shelf (including Australia and New Guinea) collided 25 Mya, facilitating the exchange of Sundanian and Sahulian biotas for the first time. This ‘Sunda-Sahul Biotic Exchange’ had a substantial effect on the megadiverse biota of the region, but a key question remaining is whether the exchange *drove* diversification. Lineages that jumped continental shelves were exposed to novel selection pressures; did this lead to the divergence of traits? We are seeking a PhD candidate to study this question by conducting a case study on the effect of the Sunda-Sahul Biotic Exchange on fruit traits in *Aglaia* (Meliaceae). *Aglaia* is a genus of c. 127 tropical tree species distributed across the Sunda and Sahul shelves, with remarkable diversity in fruits that are dispersed by primates, flying birds or the flightless cassowary. Given the stark differences in disperser communities across the islands of the Sunda and Sahul shelves – and particularly the absence of primates on Sahul – this project aims to test whether the different disperser communities drove the diversity of fruit traits in *Aglaia* as it migrated across the Sunda and Sahul shelves. This project will require the successful candidate to work with an international team of collaborators to construct a phylogeny with phylogenomic data, conduct field work in Papua New Guinea and tropical Australia, characterise *Aglaia* fruit morphology and chemistry, and perform analyses with comparative phylogenetic and mechanistic modelling approaches.



Above: *Aglaia* fruits. Photos by Herbarium JCB; Bruce Gray, Australian Tropical Rainforest Plants; Siddarth Macchado; John Elliot; Andrew Mack; Takeuchi (2009).

Eligibility

We are looking for a highly motivated candidate with a MSc degree, fluency in English, an interest in biogeography and a relevant background in plant systematics and evolution. Experience with molecular phylogenetic and/or evolutionary analyses (e.g. ancestral trait or biogeographic reconstructions) is essential. Previous experience with field work, lab work, morphology analysis methods or chemical/metabolomic analyses, or advanced bioinformatic skills will also be viewed favourably.

Position details

- **Supervision** This project will be conducted under the primary supervision of Dr. Elizabeth Joyce, as well as Prof. Dr. Gudrun Kadereit
- **Location** The Kadereit Working Group at the [Institute of Systematics, Biodiversity and Evolution of Plants](#), Ludwig Maximilian University of Munich (Menzingerstraße 67, 80638 Munich, Germany)
- **Time frame** 3 years full-time, starting February/March 2024
- **Salary** 65% [TVL-E13](#)

Application

To apply for this position, please prepare the following (in English):

1. A short (1-2 page) cover letter explaining your motivation for applying for this PhD
2. Your CV, including 1-2 referees and a publication list (if applicable)
3. A certificate of completion and degree certificate (if not available yet, please state that in your cover letter)

Email your application documents as one PDF to Dr. Elizabeth Joyce (E.Joyce@lmu.de) with reference no. AGK231103 in the subject line.

Applications close December 15th, 2023.

For further information regarding the application procedure or the project, please contact Dr. Elizabeth Joyce (E.Joyce@lmu.de).

This position is funded by the DFG.