



Multi-Trophic Interactions in a Forest Biodiversity Experiment in China

The new research unit FOR 5281 about 'Multi-Trophic interactions in a forest biodiversity experiment in China' officially started.

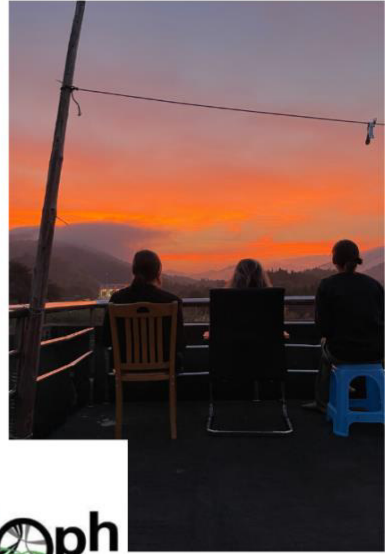
In 2008, a collaborative effort between Chinese, Swiss, and German researchers laid the foundation for what would become the world's largest forest biodiversity experiment—the BEF-China research platform, located in Jiangxi Province in south-eastern, subtropical China. Spearheaded by Helge Bruelheide, Keping Ma, and Bernhard Schmid, the overall aim of the BEF-China research platform was and still is to better understand the intricate relationships between biodiversity and ecosystem functions (BEF-relationships) in forests.

Fast forward fifteen years, and the once-planted seedlings have matured into a thriving forest canopy, prompting the initiation of new research endeavours. Funded by the German Research Foundation (DFG), MultiTroph (www.multitroph.com) has started under the leadership of Alexandra Klein (University of Freiburg) and Chao-Dong Zhu (Chinese Academy of Sciences, Beijing). While earlier phases of BEF-China primarily focused on plants, MultiTroph shifts the spotlight onto zoological aspects, seeking to unravel the mechanisms that contribute to complex BEF-relationships across trophic levels. The goal is to quantify species interactions between primary producers and different trophic and functional groups of consumers. Ultimately, we will connect the different interaction types to large food webs to increase our understanding of how, why and when ecosystem functions are destabilised with species loss. The project includes two central projects – coordination, data management, and synthesis – alongside six thematic subprojects. These subprojects delve into diverse topics such as deadwood decomposition, herbivory (including pollen-collecting bees), seed predation, and predators involving ants and wasps. Investigations into deadwood decomposition and the fluxes of chemical elements within and between trophic levels serve as crucial links in understanding the overarching network dynamics.

Our team consists of 22 researchers from German and Austrian Universities, 10 Chinese partners from the Chinese Academy of Sciences, a partner from the Stuttgart Museum of Natural History and a Mercator Fellow from Pennsylvania State University. After MultiTroph successfully kicked off in Freiburg in March 2023, our researchers were among the first foreigners that entered China post-pandemic. The first field season is now over, and we look forward to the upcoming years. As we continue our research, we are committed to keeping the Society for Tropical Ecology informed about our progress, and evolving insights into how biodiverse communities shape forest ecosystems. If we sparked your interest in MultiTroph and BEF-China, you are invited to get in touch and to follow us on X (@multitroph), Mastodon (@multitroph@mastodon.social), Instagram (multitroph), or WeChat.

Best, Finn Rehling, Michael Staab & Alexandra-M. Klein

If you've been curious about our logo, the Chinese symbols within it represent "forest" and "network," encapsulating the essence of multi-trophic networks in the forest.



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