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Phenological characteristics of *Ficus microcarpa* under climate range

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Relationship between plant phenology and climate change has become an important topic under global climate warming. Phenology is a plant growth progress that is largely driven by meteorological conditions. Phenological changes are vital indicators for changes in climate and other environmental conditions. *Ficus microcarpa* is widely distributed throughout the tropic and subtropics. We recorded the flowering phenology and resource allocation of female flowers of *F. microcarpa* over a period of 12 months at the two edges of its range, Guangzhou, China and Townsville, Australia, and the results showed *F. microcarpa* exhibited different phenological patterns under different climate pattern. There were 1-4 crops in the year at the northern edge, Guangzhou, and most individual trees exhibited intra-tree asynchronous flowering, and typically bore many synconia at different developmental phases, especially during particularly cool dry months from November to March and hot wet months from August to September. On the contrary, *F. microcarpa* produced 1-3 crops per year, usually two at the southern edge, Townsville, and intra-tree asynchronous flowering rarely occurred. Phenological patterns of *F. microcarpa* in different environments were summarized according to previous studies and local climate characteristic, and Janzen's hypotheses of adaptations to seasonality was tested and criticized. Then a supplementary hypothesis was presented: within-tree asynchronous flowering was adaptation to adverse conditions, including low temperature, violent rain, gale etc.

Biography

Shuling Lin has completed her PhD in 2008 from South China Botanical Garden, Chinese Academy of Sciences. Now she is a teacher of Geography Science, Guangzhou University. She has already published more than 10 first-author papers. Her research focuses on the relationship between plant phenology and climate change; comprehensive evaluation of human settlement quality.

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