Key factors contributing to high local diversity of trees of Euphorbiaceae in Xishuangbanna
29 August 2022, by Zhang Nannan

Using a trait networking approach, the researchers examined the correlation structure of interspecific variation among the 40 traits and interspecific variation in leaf secondary metabolites by using untargeted metabolomics. They coupled those traits with detailed measurements of variation in soil nutrients, light environment, soil water content and herbivore pressure to identify the axes of trait variation that may define niche differences among co-occurring woody Euphorbiaceae.

They found substantial differentiation in trait dimensions related to photosynthetic, hydraulic, resource-acquisition and defensive strategies with the potential to contribute to species coexistence by allowing species to segregate with respect to variation in resource availability and herbivore pressure over time and space.

"Our results suggest that resource-utilization traits and the habitat associations play a significant role in the niche segregation of co-occurring woody plants in the Euphorbiaceae. Secondary metabolites, however, may enhance diversity at a finer spatial scale by allowing closely related species with similar functional traits to partition biotic niche space within shared habitats in tropical rainforest," said Yang Jie of XTBG.


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