

Do the storage resources become a limiting factor for reproduction of dipterocarp emergent trees?

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Dynamics of resource allocation during general flowering process of two emergent tree species, *Dipterocarpus tempehes* and *Dryobalanops aromatica* (Dipterocarpaceae), were studied in a lowland dipterocarp forest in Sarawak, Malaysia. Resource limitation is considered to be proximate factor based on the speculation that mass-fruited trees must consume large amounts of their storage resources in a very short period and require certain time to restore the resources concerning general flowering events. However, there are few quantitative studies to verify these speculations and even scanty reports on the main organs of tropical emergent trees that stored resources for flowering events. In this study, we aimed to elucidate the primary source of the resources for flowering and followed seed production during general flowering event of *D. tempehes* and *Dr. aromatica* by comparing resource concentrations in various organs during a general flowering year. Moreover, we measured rates of light-saturated photosynthesis in leaves of reproductive shoots, and carried out the experiment of twig girdling in combination with leaf removal to examine the contribution of storage resources and/or photosynthetic production to the cost of reproduction during general flowering event. As a discussion, we test the hypothesis that the storage resources become a limiting factor for reproduction of dipterocarp emergent trees from the viewpoint of the relationship between year-to-year variation in seed production for each individual of two species and dynamics of the storage resources during general flowering event.