

**High gene flow in two thrips-pollinated South-East Asian pioneer trees:
genetic diversity and population structure of *Macaranga*
hypoleuca and *M. beccariana* (Euphorbiaceae)**

Abstract

As a result of intensive exploitation, disturbed forests now dominate large areas of lowland tropical rainforest in South-East Asia. The genus *Macaranga* comprises some of the most important pioneer tree species of the region, among them *M. beccariana* and *M. hypoleuca*, two closely related obligate ant-plants pollinated by thrips. We used nuclear and plastid DNA markers to address questions of genetic diversity and population structure. Twelve plastid haplotypes were detected among 281 samples, three of which were shared between the two study species. Hybrids between the two species appear to be rare. Overall, genetic diversity in both species was moderate to high, with low levels of population differentiation, consistent with other tropical pioneer trees. Genetic structure was generally more pronounced in plastid than in nuclear data, indicating that gene flow via pollen may be more efficient than via seeds. Thrips apparently also serve as efficient pollinators over long distances, perhaps through a combination of passive dispersal by wind and active search for inflorescences in the target area. Our results indicate that *M. beccariana* and *M. hypoleuca* populations from recently disturbed habitats do not yet suffer from reduced genetic diversity or increased inbreeding.