

## Phylogeography of *Xylocarpus granatum*

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### Abstract

The genus *Xylocarpus* (Meliaceae) includes two mangrove species *X. granatum* and *X. moluccensis*, and both of them are listed as endangered species in recent red lists. *X. granatum* is one of the most widely distributed species of mangroves in the Indo-West Pacific (IWP) region. Although some studies on mangrove species suggested that there were some effective barriers to the long-distance seed dispersal in the IWP region, few researches suggested the genetic structures of mangrove species over the whole range of IWP. In this study, we aim to grasp the perspective of the genetic structure of *X. granatum* using samples collected by our research network. The goal of this study is to clarify the barriers for gene flow for *X. granatum*, and to reveal the effectiveness of long-distance seed dispersal to maintain the distribution range throughout the IWP region. Using the population samples collected from Mozambique, India, Myanmar, Thailand, Vietnam, Singapore, Malaysia, Indonesia and Fiji phylogenetic relationships between *Xylocarpus* species and genetic diversity within/among populations were estimated using two chloroplast markers, *accD-psaI* and *trnD-trnT*. The chloroplast markers clearly suggested the difference between *X. granatum* and *X. moluccensis*. However, no clear genetic differences were obtained over the wide range of distribution, and in *X. granatum*, a single haplotype is distributed over the distribution range. This may suggest that the large distribution range of the species is maintained by the long-distance dispersal. Results of further analyses using nuclear markers will be reported.

### Keywords

*Xylocarpus moluccensis*, phylogeography