PALM BRIEFS

A Note on the Habitat of Pigafetta filaris in North Celebes

All botanical visitors to North Celebes must have noted the great abundance of "wanga," *Pigafetta filaris*. Despite its abundance, when examined closely, *Pigafetta filaris* appears to have a very precise and, for a Malesian rain forest palm, a most unusual habitat. The visitor to the district of Minahassa will find that *Pigafetta* is apparently very rarely found below an altitude of about 300 meters and though it is abundant in the mountains it rarely seems to be present above an altitude of 1,500 meters.

Within these altitudinal limits *Pigafetta* is not uniformly distributed; in primary forest it is very rarely encountered, yet at the edge of the forest (at edges of clearings and areas of shifting cultivation) it is often extraordinarily abundant, occurring in great groves of towering individuals often to 50 m. or more in height. In primary forest, seedlings can sometimes be encountered in small groups representing the remains of animal droppings, but seedlings beyond the one-leaf stage appear to be absent. In river gravel and in other open areas, seedlings of all sizes are present. Mature *Pigafetta* palms are common on landslips around the crater of Gunung Batu Angus within the otherwise densely forested hillslopes. I observed no *Pigafetta* in the primary forest on Gunung Ambang above Kotamobagu in Bolaang Mongondow, yet outside the forest thousands of individuals were present. All these observations seem to suggest that *Pigafetta* demands high light intensity at the seedling stage; in open areas seedlings develop well but in primary forest, even though seed is present, presumably deposited with droppings by birds, squirrels, monkeys, or other animals, they appear not to progress beyond the one-leaf stage.

The phenomenally fast growth rate of *Pigafetta* in cultivation along with this apparent high light demand, suggests that *Pigafetta* is a palm adapted to colonizing temporarily open habitats and it could be called a pioneer palm. I know of no other Malesian palm, apart perhaps from *Nypa fruticans*, *Phoenix paludosa*, *Licuala spinosa*, and *Corypha elata* (all essentially maritime palms), which behaves as a pioneer. *Pigafetta* in North Celebes has almost certainly been greatly affected by man's activities there; the clearing of land by shifting cultivation has opened up a great deal of land apparently suitable to colonization by *Pigafetta*. If my hypothesis that *Pigafetta* is a pioneer palm is correct, *Pigafetta* will probably have been much rarer in the past. Suitable natural habitats are probably river banks, landslips, very steep-sided ridgetops, and old lava flows from the many volcanoes. The relatively very small seed produced in great abundance may be seen as an adaptation to increase chances of dispersal to relatively rare open habitats within rain forest. The ecology of this superb palm would certainly repay further study.

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