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Composition and Diversity of Plant Seedlings and Saplings at Early Secondary Succession of Fallow Lands in Sabal, Sarawak

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Abstract Seedlings and saplings represent the juvenile stage of plant life and their presence can reflect the future forests regeneration. However, still less information is available on the composition and diversity of seedlings and saplings under secondary forests at Sarawak, especially in fallow lands after shifting cultivation. In this study, the composition and diversity of plant seedlings and saplings in secondary forests at various age stands was conducted in order to obtain basic information on species under succession of secondary forests after shifting cultivation. A survey was carried out in four stages of fallows land such as 3 years of fallows lands (hereafter called Temuda I), 5 years old secondary forest (hereafter called Temuda II), 10 years old secondary forest (hereafter called Belukar I), and 20 years old secondary forest (hereafter called Belukar II) in Sabal area, Sarawak. Twenty five plots with the size of 20 m × 20 m were established in each study sites and all plant seedlings and saplings within the plot were enumerated and identified. The results showed that Temuda I and Temuda II were mostly dominated by pioneer species such as *Melastoma malabathricum* L., *Ficus aurata* Miq., *Ploiarium alternifolium* Melchior, *Dillenia* spp. and *Macaranga* spp. At Belukar II, significant changes in terms of species composition was obvious where plant species such as *Artocarpus sarawakensis* Jarrett, *Artocarpus integer* (Thunb.) Merr., and *Palaquium decurrens* H.J. Lam were among the most common species in this study site. Among all the study sites, species diversity of Belukar I was the highest based on the indices of diversity (3.12), evenness (0.90), and richness (7.68). By understanding the composition and diversity of plant regeneration at early stages of secondary succession on fallow lands, such information will be useful for biodiversity conservation, and social and economic values for future forest.

Keywords Floristic composition • diversity • seedlings • saplings • secondary succession • fallow lands

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