

## **Assessment of Community Structure and Tree Diversity of Peat Swamp Forest in Resak Tambahan Forest Reserve, Rompin, Pahang**

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### **Structured Abstract**

**Background:** The peat swamp forests (PSF) exhibit lower tree species diversity compared to the dryland forest type in Peninsular Malaysia, mainly due to their unique characteristics and constrained flora composition. The study aims to assess the community structure and tree diversity of the peat swamp forest in Resak Tambahan Forest Reserve. This will involve analyzing the composition and distribution of tree species, as well as their relationships with soil properties. The findings will provide valuable insights into the ecological characteristics of the forest and inform strategies for its sustainable management and conservation.

**Methods:** The establishment of a circular plot with a radius of 10 m will be followed by a smaller circular plot with a radius of 4 m. In addition to the circular plot, there is another small plot with a radius of 2 m which is used to count saplings. A diameter tape was used, each tree measuring 10 cm or more in diameter at breast height (DBH) was identified, tagged, and measured using a diameter tape positioned 1.3 meters above the ground. The taxonomic composition of each tree within the study plot was counted and compiled. In determining the tree species abundance, the quantitative data that had been recorded will be analyzed.

**Results:** The study recorded a total number of 508 trees with diameter at breast height (DBH) of 10cm and above enumerated in this study, consisting of 66 species from 53 genera and 28 families. Euphorbiaceae, Myrtaceae, and Burseraceae were the most abundant families. The family with the highest number of individuals is Euphorbiaceae, with 90 individuals followed by Myrtaceae with 79 individuals, and Burseraceae with 46 individuals in total. Meanwhile, Chrysobalanaceae and Polygalaceae were each represented by two individuals and a single species.

**Conclusion:** In conclusion, the total number of species in the study area indicates that Resak Tambahan Forest Reserve Peat Swamp Forest in Pahang harbours a rich assemblage of plant diversity. This data will provide valuable insights into the resilience and dynamics of the peat swamp forest ecosystem in response to various natural and anthropogenic disturbances, such as climate change, land use changes, and management interventions.

**Keywords:** Community structure, tree diversity, peat swamp forest

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