Effect of forest fire on stand structure in Raja Musa Peat Swamp Forest Reserve, Selangor, Malaysia

ABSTRACT

The objective of this study was to investigate the effect of forest fire on forest structure in the peat swamp forest. The study was conducted in Raja Musa Forest Reserve which has been experiencing fire occurrences since 1996. Ten plots each measuring 50x20 m were systematically set up both in the burnt and unburnt area and plant inventory were conducted between September 2001 to June 2002. Results showed that there were 10 families and 22 families in burnt and unburnt area, respectively. In terms of family, Euphorbiaceae (61.9%) rank first in the burnt area. Imperata cylindrica from family of Poaceae had the most coverage on burnt plot. For tree diameter distribution, trees with diameter class of 10.1-15.0 cm and 15.1-20.0 cm had the highest number in the unburnt area while trees with diameter class of 5.1-10.0 cm was the highest in burnt area. Shannonôs diversity index in burnt area was 1.62, lower compared to unburnt area which was 2.40. Evenness index for burnt area was 0.68, lower than unburnt area which was 0.71. This study shows that fire affects the species composition and stand structure of the forest and herbaceous vegetation, such as Poaceae was found to be abundant in burnt area compared to unburnt area.

Keyword: Forest disturbance; Fire effects; Tree diversity