

**題目 : Fire impacts on termite biodiversity: a case study in fire-induced degraded peatlands, Sumatra Indonesia.**

シロアリ多様性への野火のインパクト : スマトラ泥炭地におけるケーススタディ

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Related mission: Mission 4

**Abstract**

Indo-Malayan region consists of 62% of global tropical peatlands. In Indonesia alone consists of 22,500,000 hectares of peat swamp forest. These peatlands have served as main habitats for many endemic species of flora, fauna and microbes. In addition, the peatlands has been an economic backbone for the livelihood of locals. However, due to landscape exploitation following uncontrollable illegal logging activity and drastic land conversion to agro-industrial plantations, fire has been the main feature in the disturbed peatlands. Termites are ubiquitous soil-dwelling insects. Their presence in nature ecosystem facilitates energy flow and recycling of nutrients. They are also known to be one of the major soil-engineer in agroecosystem improving soil processes and fertility. Owing to the unusual peat ecosystem that are highly acidic, anaerobic, sensitive to fire and disturbed conditions, this poses massive termite biodiversity collapse. Only termites which have a unique adaptive survival strategies and nesting behaviour may only sustain in such harsh environment. To date, there is a series of publication on fire impact on termite biodiversity but most of the works were carried out in savanna and arid ecosystem. The information is arguably universally applied in the tropic seeing the vast differences in biodiversity and climatic patterns. Through a case study of serious peat fire in Sumatra, Indonesia, the presentation will address on how the fires affect termite biodiversity in fire-induced peatland and provide insight the

adaptive strategies that termites could have employed for survive. In the meantime, the importance of conserving termites in degraded peatland as part of rehabilitation effort is also discussed.