

Title	Cover, Content etc.
Author(s)	Sakai, Shoko; Pungga, Runi Anak Sylvester; Meleng, Paulus; Itioka, Takao
Citation	Proceedings of the symposium "Frontier in tropical forest research: progress in joint projects between the Forest Department Sarawak and the Japan Research Consortium for Tropical Forests in Sarawak" (2016), 2016
Issue Date	2016-06
URL	http://hdl.handle.net/2433/227101
Right	
Type	Others
Textversion	publisher



**Proceedings of the Symposium
“Frontier in Tropical Forest Research: Progress in
Joint Projects between the Forest Department
Sarawak and the Japan Research Consortium for
Tropical Forests in Sarawak”**

Edited by:
Shoko Sakai, Runi Anak Sylvester Pungga,
Paulus Meleng, Takao Itioka

2016

**Proceedings of the symposium
“Frontier in Tropical Forest Research: Progress
in Joint Projects between the Forest Department
Sarawak and the Japan Research Consortium for
Tropical Forests in Sarawak”**

Edited by

Shoko Sakai
Runi Anak Sylvester Pungga
Paulus Meleng
Takao Itioka

Forest Department Sarawak

Japan Research Consortium for
Tropical Forests in Sarawak

2016

Contents

Keynote Speech

- What we have studied and what should be studied in the future on tropical rain forests in Sarawak 1
Tohru Nakashizuka

Session 1: Ecology and genetics of tropical rainforest trees in Sarawak

- S1-1 Long-term monitoring of plant reproductive phenology and observation of general flowering in Lambir Hills, Sarawak 9
Shoko Sakai and Takao Itioka
- S1-2 Effects of enrichment planting on the soil physicochemical properties at reforestation sites planted with *Shorea macrophylla* de Vriese in Sampadi Forest Reserve, Sarawak, Malaysia 19
Mugunthan Perumal, Mohd Effendi Wasli and Jonathan Lat
- S1-3 Molecular phylogeny and evolution of tropical forest trees 30
Koichi Kamiya, Ko Harada, Satoshi Nanami, Akira Itoh, Bibian M. Diway and Lucy Chong
- S1-4 Combining field and molecular approaches to understand the regeneration processes of tropical tree species 38
Yayoi Takeuchi and Masaki J. Kobayashi
- S1-5 Application of gene expression analyses to studies of general flowering 46
Masaki J. Kobayashi, Yayoi Takeuchi, Tanaka Kenta, Tomonori Kume, Bibian Diway and Kentaro K. Shimizu
- S1-6 Gene flow through pollination of dipterocarp tree species in a Bornean rainforest 52
Satoshi Nanami, Akira Itoh, Takuo Yamakura, Sylvester Tan, Bibian Diway and Lucy Chong
- S1-7 Allometric equations for accurate estimation of forest biomass in tropical logged-over and early successional secondary forests in Sarawak, Malaysia 60
Tanaka Kenzo, Tomoaki Ichie and Joseph Jawa Kendawang

S1-8	Vertical changes in leaf ecophysiological traits in diverse tropical rainforest tree species in Lambir Hills National Park in Sarawak <i>Tanaka Kenzo, Yuta Inoue, Mitsunori Yoshimura, Megumi Yamashita, Ayumi Tanaka-Oda and Tomoaki Ichie</i>	71
S1-9	Leaf $\delta^{15}\text{N}$ in diverse tree species in a lowland dipterocarp forest, Lambir Hills National Park, Sarawak, Malaysia <i>Ayumi Tanaka-Oda, Tanaka Kenzo, Yuta Inoue, Midori Yano, Keisuke Koba and Tomoaki Ichie</i>	84
S1-10	Wood density and water content in diverse species from lowland dipterocarp rainforest and dry dipterocarp forest <i>Tanaka Kenzo, Tomoaki Ichie, Yuta Inoue, Joseph Jawa Kendawang and Sopal Chann</i>	94
S1-11	Effect of through-fall exclusion on leaf water use in the tropical canopy tree species <i>Dryobalanops aromatica</i> <i>Yuta Inoue, Tomoaki Ichie, Tanaka Kenzo, Aogu Yoneyama, Tomoomi Kumagai and Tohru Nakashizuka</i>	104
S1-12	Biotic and abiotic factors influencing the seedling dynamics of four dipterocarp species <i>Shiori Suzuki, Michiko Inanaga and Michiko Nakagawa</i>	114
S1-13	Depth of water uptake and flowering frequency of dipterocarp trees <i>Kazuma Kawahara, Naoko Matsuo, Shoko Sakai and Michiko Nakagawa</i>	124
S1-14	Detection of interannual variability of the spatial distribution of deforestation in Borneo by analyzing the cloud-free daily MODIS satellite-observed green-red vegetation index <i>Shin Nagai and Rikie Suzuki</i>	132
Session 2: Progress and prospects for studies on diversity of fungi, insects and vertebrates in Sarawak		
S2-1	Effect of the distance between natural forest and Acacia forest on termite diversity in Acacia plantation forests <i>Yoko Takematsu, Paulus Meleng, Fatimah Bte Mohammad, Mohamad Nafri Bin Ari, Kok-Boon Neoh, Tsuyoshi Yoshimura and Takao Itioka</i>	137
S2-2	Geographical variation of mutualistic relationships between <i>Macaranga</i> myrmecophytes and their ant partners: research plans in Sarawak <i>Usun Shimizu-kaya, Yoko Inui, Shouhei Ueda, Takao Itino and Takao Itioka</i>	146

S2-3	Chemical ecology of ant-plant dwellers and interactions with the ants <i>Yoko Inui, Usun Shimizu-Kaya, Eri Yamasaki, Munetoshi Maruyama and Takao Itioka</i>	154
S2-4	Fungi in Sarawak: practical use of historical samples in the fungarium of the Forest Department Sarawak <i>Habibah Salleh, Y. Ghani, S. Nelson, Mohamad S. Haryanie and Satoshi Yamashita</i>	160
S2-5	Decomposition of wood blocks in <i>Acacia</i> plantations and natural forests in Bintulu, Malaysia <i>Satoshi Yamashita, Mohamad Nafri Ali, Paulus Meleng, Fatimah Bte Mohammad, Takao Itioka and Kimiko Okabe</i>	165
S2-6	Effects of tropical forest remnants on the assemblage of parasitoid wasps in the surrounding areas in Borneo <i>Paulus Meleng, Takao Itioka, Satoshi Yamashita, Fatimah Mohammad, Mohammad Nafri Ali, Mohamad Yazid Hossman, Shoko Sakai, K. Takenaka Takano, Fujio Hyodo, Yoko Takematsu, Masato Ito and Kaoru Maeto</i>	169
S2-7	Introduction to recent systematic studies on amphibians of Sarawak by JRCTS and Forest Research Department Sarawak <i>Koshiro Eto, Masafumi Matsui and Kanto Nishikawa</i>	175
S2-8	The population dynamics and biodiversity of insect seed predators in tropical rainforests of Sarawak <i>Iku Asano, Michiko Nakagawa, Yayoi Takeuchi, Shoko Sakai, Keiko Kishimoto-Yamada, Usun Shimizu-kaya, Fatimah Mohammad, Mohamad Yazid Hossman, Azimah Bunyok, Mohd Yusuf Abd Rahman, Paulus Meleng and Takao Itioka</i>	179
Session 3: Biogeoscience in a tropical rainforest in Sarawak, Malaysia		
S3-1	Carbon allocation of tropical rainforest in Lambir, Borneo <i>Ayumi Katayama, Tomonori Kume, Kazuho Matsumoto, Takuya Saito and Mizue Ohashi</i>	187
S3-2	Possibility of evapotranspiration estimates by the hourly hydrologic data based short-time period water-budget method in a rainforest watershed at Lambir Hills National Park <i>Taeko Wakahara, Katsushige Shiraki and Koichiro Kuraji</i>	201