

TROPICS

熱帯研究

ISSN 0917-415X

Vol. 14

No. 1

August 2004



The Japan Society of Tropical Ecology

日本熱帯生態学会

CONTENTS

A. USUP, Y. HASHIMOTO, H. TAKAHASHI & H. HAYASAKA Combustion and thermal characteristics of peat fire in tropical peatland in Central Kalimantan, Indonesia.	1
H.T. NGUYEN, R. YONEDA, I. NINOMIYA, K. HARADA, T.V. DAO, T.M. SY & H.N. PHAN The effects of stand-age and inundation on carbon accumulation in mangrove plantation soil in Namdinh, Northern Vietnam.	21
R. DOI, P. SAHUNALU, C. WACHRINRAT, S. TEEJUNTUK & K. SAKURAI Changes in soil bacterial community profiles associated with deforestation in the Sakaerat Environmental Research Station, Thailand: comparisons between soils of the original forest and bare ground.	39
E. YULIANTO, K. HIRAKAWA & H. TSUJI Charcoal and organic geochemical properties as an evidence of Holocene fires in tropical peatland, Central Kalimantan, Indonesia.	55
K. TAKAHASHI Crown architecture of the ginger <i>Alpinia scabra</i> (Zingiberaceae) in a tropical submontane forest, Indonesia.	65
T. KONISHI, K. HARADA, L. CHONG, E. CHAI, J.J. KENDAWANG, H.S. LEE, T. YAMAKURA, A. ITOH, K. SAKURAI & K. OGINO Comparative study of AFLP and microsatellite variation in four Dipterocarp species form natural and artificial populations in Sarawak, Malaysia.	75
R. SUZUKI, S. TAKEDA & S.K. KEH The impact of forest fires on the long-term sustainability of taungya teak reforestation in Bago Yoma, Myanmar.	87
M.Z. HAMAZAH, F.H. IBRAHIM, M.Z. ALIAS, N.M. MAJID, M.K. YUSUF & K. FUJIWARA Recovery of lowland Dipterocarp forests under the Malayan uniform system.	103
S. YAMAMOTO & E. NAWATA Morphological characters and numerical taxonomic study of <i>Capsicum frutescens</i> in Southeast and East Asia.	111
T. HASHIMOTO, T. TANGE, M. MASUMORI, H. YAGI, S. SASAKI & K. KOJIMA Allometric equations for pioneer tree species and estimation of the aboveground biomass of a tropical secondary forest in East Kalimantan.	123
K. YONEBAYASHI, H. YAMADA, A. SUZUKI, M. EBATO & S. ANWAR Evidence of sea water boron in the lower layers of tropical woody peat.	131

The cover: Title "Preserve the Beautiful Ocean, Skies, and Forests for
the Future!" Name: Alvarez Icaza Ramirez, 9 years old, India. It has been
submitted to "International Children's Poster on Environment" supported
by Foundation for Global Peace and Environment.



PUBLISHED BY THE JAPAN SOCIETY OF TROPICAL ECOLOGY

Editor-in-Chief Dr. Mitsuru OSAKI

Graduate School of Agriculture, Hokkaido University, Sapporo, 060-8589, JAPAN

Phone and Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp

PRINTED BY SUDA PRINTING CO., Ltd.

PUBLICATION DATE: 31th August 2004.

TROPICS

TROPICS is issued quarterly with one volume per year. The journal publishes papers in all aspects of ecology and/or other fields of science related to ecology. It is open to the results of original research, experimental or descriptive, and to significant reviews of aspects of the ecology of tropical regions. It aims not only to act as a valued means of communication between Japanese ecologists and other field scientists, but also to stimulate the research activities of ecologists and scientists of tropical regions. All members of the society can contribute to **TROPICS**, and invited articles may be accepted at the request of the Editorial and Advisory Board. Special issues of monographs or reviews may be published on occasion by decision of the editorial board.

Editor-in-Chief: Mitsuru Osaki (Hokkaido University, Japan)

Editorial Board (All Japanese)

Ken-ichi Abe (Natl. Museum of Ethnology)
Haruo Fukuhara (Niigata Univ.)
Takashi Hirano (Hokkaido Univ.)
Mitsuo Ichikawa (Kyoto Univ.)
Takashi Inoue (Hokkaido Univ.)
Akira Itoh (Osaka City Univ.)
Naoki Kachi (Tokyo Met. Univ.)
Nobuhiro Kaneko (Yokohama Natl. Univ.)
Misa Masuda (Tsukuba Univ.)
Noboru Matsushima (Japan Wildlife Res. Center)
Koji Nakamura (Kanazawa Univ.)
Kazutaka Nakano
Ikuo Ninomiya (Ehime Univ.)
Katsutoshi Sakurai (Kouchi Univ.)
Yo-Ichiro Sato (Shizuoka Univ.)
Takuro Shinano (Hokkaido Univ., Editorial Secretary)
Seiki Yamane (Kagoshima Univ.)
Masatoshi Yasuda (FFPRI)

Advisory Board

Sanit Aksornkoae (Thailand)	Miguel D. Fortes (The Philippines)
Somsak Sukuwong (Thailand)	Xie Ping (China)
Chairatna Nilnond (Thailand)	Jingyun Fang (China)
Herwint Simbolon (Indonesia)	Linzhang Yang (China)
Supiandi Sabiham (Indonesia)	A. H. Zakri (Japan)
Sudarmadji (Indonesia)	Phan Nguyn Hong (Vietnam)
Tania June (Indonesia)	Rishi Kumar Behl (India)
Wil de Jong (Indonesia)	Mangalashery Balasundaran (India)
Abdul.M. Mokhtaruddin (Malaysia)	Mario Takao Inoue (Brazil)
Mohd Kamil Yusoff (Malaysia)	Maria Catarina Megumi Kasuya (Brazil)
Ibnahim. Faridah-Hanum (Malaysia)	Joseph Cobbina (Ghana)
Muhamad Awang (Malaysia)	
Ian Mark Turner (Singapore)	
James V. LaFrankie (Singapore)	

Instructions to authors

One original and two high-quality copies of each manuscript, preferably in English (or Japanese), should be sent to the editor-in-chief. Manuscripts should be typewritten on one side of the paper only, double-spaced throughout, and with a wide margin (more than 2 cm). Original photographs should be provided with each copy. When a paper is submitted to **TROPICS**, it is assumed that the work has not been published elsewhere and that the paper is not being submitted simultaneously to another journal. **TROPICS** accepts full papers (scientific papers), short papers (scientific papers with fewer than 4 pages when printed), field notes, selected papers from symposiums (a fee is applicable), reviews, and monographs.

Following acceptance, a copy of the manuscript must be submitted on disk. We accept files from Windows or Macintosh. Major software is acceptable, and the author should specify the type of computer system, the word processor used, and the name of the software package. Submission is preferred on CD, but 3.5-inch floppy disks and MO disks are also acceptable.

Manuscripts may be submitted to **TROPICS** by E-mail with attached files. Text, tables and figures must be in Microsoft Word, Microsoft Excel and EPS format, please do not include any tables or figures inside the text. We also accept PDF format for text, tables and figures. We are able to accept up to 3 MB file.

A contribution will be critically reviewed by two reviewers regarding the suitability of the manuscript for publication in **TROPICS**. The Editorial Committee reserves the right to make the final decision on the acceptance or rejection of the manuscript.

A cover page is required which includes a title, a running title, a list of authors names, institutes, and addresses, and the name of the corresponding author including telephone number, facsimile number, and e-mail address.

Abstract: Each paper should be provided with an abstract in English.

Key words: Several key words are required.

Citation of literature: In the text as follows: (Primack, 1991) or Ashton (1991). In the references as follows:

Primack, R. B. & Hall P. 1991. Species diversity research in Bornean forests with implications for conservation biology and silviculture.

Tropics 1: 91-111.

Jacobs, M. 1974. Botanical panorama of the Malesian archipelago. In UNESCO, Natural Resources of Humid Tropical Asia, 263-294. Paris.

Illustrations: Illustrations should be professionally drawn and lettered, or laser printed on smooth white paper. Photographs and color slides are also acceptable, but the author(s) will be charged for printing them in color.

Reprints: Fifty reprints will be supplied by actual expense 5,000 yen (JPY). The author will be charged for additional reprint orders, at 5,000 yen (JPY) per 50 reprints.

Submission: Manuscripts and correspondence concerning editorial matters should be addressed to the Editorial Office.

Editorial Office of the Japan Society of Tropical Ecology

Dr. Mitsuru Osaki (Editor-in-Chief of **TROPICS**)

Graduate School of Agriculture, Hokkaido University,

Kita-9, Nishi-9, Kitaku, Sapporo 060-8589, JAPAN

Phone & Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp, or takuro@chem.agr.hokudai.ac.jp

Upon receipt of the manuscript, the author(s) will be informed of the date of receipt and the registration number of the manuscript. The registration number should be quoted in all correspondence thereafter.

All the manuscripts, including the proceeding, will be subjected to peer review by two outside reviewers.

The General Office of the Japan Society of Tropical Ecology

Graduate School of Asian and African Area Studies, Kyoto University

Kyoto, 606-8501, Japan

Phone: +81-75-753-7832

Fax: +81-75-753-7834

E-mail: jasteadm@asafas.kyoto-u.ac.jp

TROPICS

熱帯研究

ISSN 0917-415X

Vol. 14 No. 2 February 2005



The Japan Society of Tropical Ecology

日本熱帯生態学会

CONTENTS

- Y. HASHIDOKO, T. HASEGAWA, E. PURNOMO, M. TADA, S.H. LIMIN, M. OSAKI & S. TAHARA Neutral rhizoplane pH of local rice and some predominant tree species in South and Central Kalimantan: A possible strategy of plant adaptation to acidic-soil.139
- M. TANASOMBAT, Y. OKABAYASHI, K. SAKURAI, B. THAIUTSA, S. THAMMINCHA & P. SUEKEAW Silvicultural performance of paper mulberry in Thailand.149
- M. TANASOMBAT, K. SAKURAI, S. THAMMINCHA & B. THAIUTSA Influence of soil properties and stem density on the growth and inner bark biomass of paper mulberry (*Broussonetia papyrifera*) in natural stands, Thailand.163
- T. SEINO, M. OKADA & K. KITAYAMA Changes in wood anatomy linked to canopy height in a Hawaiian wet montane forest along a substrate age gradient.173
- E. NAWATA, Y. NAGATA, A. SASAKI, K. IWAMA & T. SAKURATANI Mapping of climatic data in Northeast Thailand: Temperature and solar radiation.179
- E. NAWATA, Y. NAGATA, A. SASAKI, K. IWAMA & T. SAKURATANI Mapping of climatic data in Northeast Thailand: Rainfall.191
- Mini Review
B.H. SAHARJO The role of weeds as fuels in prescribed burning.203

The cover: Title "Preserve the Beautiful Ocean, Skies, and Forests for the Future!" Name: Filip Knap, 6 years old, Czech Republic. It has been submitted to "International Children's Poster on Environment" supported by Foundation for Global Peace and Environment.



PUBLISHED BY THE JAPAN SOCIETY OF TROPICAL ECOLOGY

Editor-in-Chief Dr. Mitsuru OSAKI

Graduate School of Agriculture, Hokkaido University, Sapporo, 060-8589, JAPAN

Phone and Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp

PRINTED BY SUDA PRINTING CO., Ltd.

PUBLICATION DATE: 28th February 2005.

TROPICS

TROPICS is issued quarterly with one volume per year. The journal publishes papers in all aspects of ecology and/or other fields of science related to ecology. It is open to the results of original research, experimental or descriptive, and to significant reviews of aspects of the ecology of tropical regions. It aims not only to act as a valued means of communication between Japanese ecologists and other field scientists, but also to stimulate the research activities of ecologists and scientists of tropical regions. All members of the society can contribute to **TROPICS**, and invited articles may be accepted at the request of the Editorial and Advisory Board. Special issues of monographs or reviews may be published on occasion by decision of the editorial board.

Editor-in-Chief: Mitsuru Osaki (Hokkaido University, Japan)

Editorial Board (All Japanese)

Ken-ichi Abe (Natl. Museum of Ethnology)
Haruo Fukuhara (Niigata Univ.)
Takashi Hirano (Hokkaido Univ.)
Mitsuo Ichikawa (Kyoto Univ.)
Takashi Inoue (Hokkaido Univ.)
Akira Itoh (Osaka City Univ.)
Naoki Kachi (Tokyo Met. Univ.)
Nobuhiro Kaneko (Yokohama Natl. Univ.)
Misa Masuda (Tsukuba Univ.)
Noboru Matsushima (Japan Wildlife Res. Center)
Koji Nakamura (Kanazawa Univ.)
Kazutaka Nakano
Ikuo Ninomiya (Ehime Univ.)
Katsutoshi Sakurai (Kouchi Univ.)
Yo-Ichiro Sato (Shizuoka Univ.)
Takuro Shinano (Hokkaido Univ., Editorial Secretary)
Seiki Yamane (Kagoshima Univ.)
Masatoshi Yasuda (FFPRI)

Advisory Board

Sanit Aksornkoae (Thailand)	Miguel D. Fortes (The Phillipines)
Somsak Sukuwong (Thailand)	Xie Ping (China)
Chairatna Nilnond (Thailand)	Jingyun Fang (China)
Herwint Simbolon (Indonesia)	Linzhang Yang (China)
Supiandi Sabiham (Indonesia)	A. H. Zakri (Japan)
Sudarmadji (Indonesia)	Phan Nguyn Hong (Vietnam)
Tania June (Indonesia)	Rishi Kumar Behl (India)
Wil de Jong (Indonesia)	Mangalashery Balasundaran (India)
AbdulM. Mokhtaruddin (Malaysia)	Mario Takao Inoue (Brazil)
Mohd Kamil Yusoff (Malaysia)	Maria Catarina Megumi Kasuya (Brazil)
Ibnahim. Faridah-Hanum (Malaysia)	Joseph Cobbina (Ghana)
Muhamad Awang (Malaysia)	
Ian Mark Turner (Singapore)	
James V. LaFrankie (Singapore)	

Instructions to authors

One original and two high-quality copies of each manuscript, preferably in English (or Japanese), should be sent to the editor-in-chief. Manuscripts should be typewritten on one side of the paper only, double-spaced throughout, and with a wide margin (more than 2 cm). Original photographs should be provided with each copy. When a paper is submitted to **TROPICS**, it is assumed that the work has not been published elsewhere and that the paper is not being submitted simultaneously to another journal. **TROPICS** accepts full papers (scientific papers), short papers (scientific papers with fewer than 4 pages when printed), field notes, selected papers from symposiums (a fee is applicable), reviews, and monographs.

Following acceptance, a copy of the manuscript must be submitted on disk. We accept files from Windows or Macintosh. Major software is acceptable, and the author should specify the type of computer system, the word processor used, and the name of the software package. Submission is preferred on CD, but 3.5-inch floppy disks and MO disks are also acceptable.

Manuscripts may be submitted to **TROPICS** by E-mail with attached files. Text, tables and figures must be in Microsoft Word, Microsoft Excel and EPS format, please do not include any tables or figures inside the text. We also accept PDF format for text, tables and figures. We are able to accept up to 3 MB file.

A contribution will be critically reviewed by two reviewers regarding the suitability of the manuscript for publication in **TROPICS**. The Editorial Committee reserves the right to make the final decision on the acceptance or rejection of the manuscript.

A cover page is required which includes a title, a running title, a list of authors names, institutes, and addresses, and the name of the corresponding author including telephone number, facsimile number, and e-mail address.

Abstract: Each paper should be provided with an abstract in English.

Key words: Several key words are required.

Citation of literature: In the text as follows: (Primack, 1991) or Ashton (1991). In the references as follows:

Primack, R. B. & Hall P. 1991. Species diversity research in Bornean forests with implications for conservation biology and silviculture.

Tropics 1: 91-111.

Jacobs, M. 1974. Botanical panorama of the Malesian archipelago. In UNESCO, Natural Resources of Humid Tropical Asia, 263-294. Paris.

Illustrations: Illustrations should be professionally drawn and lettered, or laser printed on smooth white paper. Photographs and color slides are also acceptable, but the author(s) will be charged for printing them in color.

Reprints: Fifty reprints will be supplied by actual expense 5,000 yen (JPY). The author will be charged for additional reprint orders, at 5,000 yen (JPY) per 50 reprints.

Submission: Manuscripts and correspondence concerning editorial matters should be addressed to the Editorial Office.

Editorial Office of the Japan Society of Tropical Ecology

Dr. Mitsuru Osaki (Editor-in-Chief of **TROPICS**)

Graduate School of Agriculture, Hokkaido University,

Kita-9, Nishi-9, Kitaku, Sapporo 060-8589, JAPAN

Phone & Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp, or takuro@chem.agr.hokudai.ac.jp

Upon receipt of the manuscript, the author(s) will be informed of the date of receipt and the registration number of the manuscript. The registration number should be quoted in all correspondence thereafter.

All the manuscripts, including the proceeding, will be subjected to peer review by two outside reviewers.

The General Office of the Japan Society of Tropical Ecology

Graduate School of Asian and African Area Studies, Kyoto University

Kyoto, 606-8501, Japan

Phone: +81-75-753-7832

Fax: +81-75-753-7834

E-mail: jasteadm@asafas.kyoto-u.ac.jp

TROPICS

熱帯研究

ISSN 0917-415X

Vol. 14 No. 3

April 2005



The Japan Society of Tropical Ecology

日本熱帯生態学会

CONTENTS

- Y. MARUYAMA, S. NAKAMURA, R.A. MARENCO, G. VIEIRA & A. SATO Photosynthetic traits of seedlings of several tree species in an Amazonian forest.211
- K. OGAWA, A.M. ABDULLAH, M. AWANG & A. FURUKAWA Phenological characteristics of reproduction and seed formation in *Durio zibethinus* Murray.221
- K. SUZUKI, C. LAONGPOL & K. SRIDITH Phytosociological studies on vegetation of coastal dunes at Narathiwat, Thailand.229
- D. HAYASAKA & K. FUJIWARA Species composition and environmental factors, including human impacts, on coastal sand-dunes and maritime strand-forests in Southern Thailand.245
- T. HOSAKA, H. WATANABE & B.H. SAHARJO The abundance and composition of arboreal arthropods in *Acacia mangium* and *Paraserianthes falcataria* plantations in South Sumatra, Indonesia.255
- B.H. SAHARJO & A.D. NURHAYATI Changes in chemical and physical properties of hemic peat under fire-based shifting cultivation.263
- E. YULIANTO, H. TSUJI, W.S. SUKAPTI & N. TANAKA A holocene pollen and charcoal record from a tropical lowland swamp in Rawa Danau, West Java, Indonesia.271
- M. OTSUKA Effects of farmers' land tenure variations on their land use around Kerinci Seblat National Park, West Sumatra, Indonesia.283

The cover: Title "Preserve the Beautiful Ocean, Skies, and Forests for the Future!" Name: Jin Qiuyue, 6 years old, People's Republic of China. It has been submitted to "International Children's Poster on Environment" supported by Foundation for Global Peace and Environment.



PUBLISHED BY THE JAPAN SOCIETY OF TROPICAL ECOLOGY

Editor-in-Chief Dr. Mitsuru OSAKI

Graduate School of Agriculture, Hokkaido University, Sapporo, 060-8589, JAPAN

Phone and Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp

PRINTED BY SUDA PRINTING CO., Ltd.

PUBLICATION DATE: 15th April 2005.

TROPICS

TROPICS is issued quarterly with one volume per year. The journal publishes papers in all aspects of ecology and/or other fields of science related to ecology. It is open to the results of original research, experimental or descriptive, and to significant reviews of aspects of the ecology of tropical regions. It aims not only to act as a valued means of communication between Japanese ecologists and other field scientists, but also to stimulate the research activities of ecologists and scientists of tropical regions. All members of the society can contribute to **TROPICS**, and invited articles may be accepted at the request of the Editorial and Advisory Board. Special issues of monographs or reviews may be published on occasion by decision of the editorial board.

Editor-in-Chief: Mitsuru Osaki (Hokkaido University, Japan)

Editorial Board (All Japanese)

Ken-ichi Abe (Natl. Museum of Ethnology)
Haruo Fukuhara (Niigata Univ.)
Takashi Hirano (Hokkaido Univ.)
Mitsuo Ichikawa (Kyoto Univ.)
Takashi Inoue (Hokkaido Univ.)
Akira Itoh (Osaka City Univ.)
Naoki Kachi (Tokyo Met. Univ.)
Nobuhiro Kaneko (Yokohama Natl. Univ.)
Misa Masuda (Tsukuba Univ.)
Noboru Matsushima (Japan Wildlife Res. Center)
Koji Nakamura (Kanazawa Univ.)
Kazutaka Nakano
Ikuo Ninomiya (Ehime Univ.)
Katsutoshi Sakurai (Kouchi Univ.)
Yo-Ichiro Sato (Shizuoka Univ.)
Takuro Shinano (Hokkaido Univ., Editorial Secretary)
Seiki Yamane (Kagoshima Univ.)
Masatoshi Yasuda (FFPRI)

Advisory Board

Sanit Aksornkoae (Thailand)	Miguel D. Fortes (The Philippines)
Somsak Sukuwong (Thailand)	Xie Ping (China)
Chairatna Nilnond (Thailand)	Jingyun Fang (China)
Herwint Simbolon (Indonesia)	Linzhang Yang (China)
Supiandi Sabiham (Indonesia)	A. H. Zakri (Japan)
Sudarmadji (Indonesia)	Phan Nguyn Hong (Vietnam)
Tania June (Indonesia)	Rishi Kumar Behl (India)
Wil de Jong (Indonesia)	Mangalashery Balasundaran (India)
Abdul.M. Mokhtaruddin (Malaysia)	Mario Takao Inoue (Brazil)
Mohd Kamil Yusoff (Malaysia)	Maria Catarina Megumi Kasuya (Brazil)
Ibnahim. Faridah-Hanum (Malaysia)	Joseph Cobbina (Ghana)
Muhamad Awang (Malaysia)	
Ian Mark Turner (Singapore)	
James V. LaFrankie (Singapore)	

Instructions to authors

One original and two high-quality copies of each manuscript, preferably in English (or Japanese), should be sent to the editor-in-chief. Manuscripts should be typewritten on one side of the paper only, double-spaced throughout, and with a wide margin (more than 2 cm). Original photographs should be provided with each copy. When a paper is submitted to **TROPICS**, it is assumed that the work has not been published elsewhere and that the paper is not being submitted simultaneously to another journal. **TROPICS** accepts full papers (scientific papers), short papers (scientific papers with fewer than 4 pages when printed), field notes, selected papers from symposiums (a fee is applicable), reviews, and monographs.

Following acceptance, a copy of the manuscript must be submitted on disk. We accept files from Windows or Macintosh. Major software is acceptable, and the author should specify the type of computer system, the word processor used, and the name of the software package. Submission is preferred on CD, but 3.5-inch floppy disks and MO disks are also acceptable.

Manuscripts may be submitted to **TROPICS** by E-mail with attached files. Text, tables and figures must be in Microsoft Word, Microsoft Excel and EPS format, please do not include any tables or figures inside the text. We also accept PDF format for text, tables and figures. We are able to accept up to 3 MB file.

A contribution will be critically reviewed by two reviewers regarding the suitability of the manuscript for publication in **TROPICS**. The Editorial Committee reserves the right to make the final decision on the acceptance or rejection of the manuscript.

A cover page is required which includes a title, a running title, a list of authors names, institutes, and addresses, and the name of the corresponding author including telephone number, facsimile number, and e-mail address.

Abstract: Each paper should be provided with an abstract in English.

Key words: Several key words are required.

Citation of literature: In the text as follows: (Primack, 1991) or Ashton (1991). In the references as follows:

Primack, R. B. & Hall P. 1991. Species diversity research in Bornean forests with implications for conservation biology and silviculture.

Tropics 1: 91-111.

Jacobs, M. 1974. Botanical panorama of the Malesian archipelago. In UNESCO, Natural Resources of Humid Tropical Asia, 263-294. Paris.

Illustrations: Illustrations should be professionally drawn and lettered, or laser printed on smooth white paper. Photographs and color slides are also acceptable, but the author(s) will be charged for printing them in color.

Reprints: Fifty reprints will be supplied by actual expense 5,000 yen (JPY). The author will be charged for additional reprint orders, at 5,000 yen (JPY) per 50 reprints.

Submission: Manuscripts and correspondence concerning editorial matters should be addressed to the Editorial Office.

Editorial Office of the Japan Society of Tropical Ecology

Dr. Mitsuru Osaki (Editor-in-Chief of **TROPICS**)
Graduate School of Agriculture, Hokkaido University,
Kita-9, Nishi-9, Kitaku, Sapporo 060-8589, JAPAN
Phone & Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp, takuro@chem.agr.hokudai.ac.jp

Upon receipt of the manuscript, the author(s) will be informed of the date of receipt and the registration number of the manuscript. The registration number should be quoted in all correspondence thereafter.

All the manuscripts, including the proceeding, will be subjected to peer review by two outside reviewers.

The General Office of the Japan Society of Tropical Ecology

Graduate School of Asian and African Area Studies, Kyoto University
Kyoto, 606-8501, Japan
Phone: +81-75-753-7832
Fax: +81-75-753-7834
E-mail: jasteadm@asafas.kyoto-u.ac.jp

TROPICS

熱帯研究

ISSN 0917-415X

Vol. 14

No. 4

July 2005



The Japan Society of Tropical Ecology

日本熱帯生態学会

CONTENTS

- J. J. KENDAWANG, S. TANAKA, R. SODA, L. SEMAN, M. E. WASLI & K. SAKURAI Difference of rice farming practices of the Iban in a national boundary area in Borneo and its socio-economic background.295
- S. OYAMA Ecological knowledge of site selection and tree-cutting methods of Bemba shifting cultivators in northern Zambia.309
- M. MASUDA, J. MISHIBA & M. DHAKAL Implementation of participatory forest management in Kerala, India.323
- A. S. LEKSONO, N. NAKAGOSHI & Y. ISAGI The effects of forest disturbances on flying insect assemblages in Trawas, East Java.335
- S. KITAMURA, T. YUMOTO, P. POONSWAD, P. CHUAILUA, K. PLONGMAI, N. NOMA, T. MARUHASHI & P. WOHADEE Fruit-frugivore interactions in a moist evergreen forest of Khao Yai National Park in Thailand.345
- Z. OGINOSAKO, R. KINDT & S. G. MATHENGE An ecological analysis and characterization of *Acacia* species in Kenya.357
- R. H. PURWANTO & N. TOKUCHI Production and seasonal patterns of leaf litter in moist deciduous forest in eastern Java, Indonesia.371
- M. HIRATSUKA, V. CHINGCHAI, P. KANTINAN, J. SIRIRAT, A. SATO, Y. NAKAYAMA, C. MATSUNAMI, Y. OSUMI & Y. MORIKAWA Tree biomass and soil carbon in 17- and 22-year-old stands of teak (*Tectona grandis* L.f.) in northern Thailand.377
- H. TAN, L. ZHOU, R. XIE & M. HUANG Effect of fertilizer application and the main nutrient limiting factors for yield and quality of sugarcane production in Guangxi red soil.383

The cover: Title "Preserve the Beautiful Ocean, Skies, and Forests for the Future!" Name: E. Anita, 15 years old, India. It has been submitted to "International Children's Poster on Environment" supported by Foundation for Global Peace and Environment.



PUBLISHED BY THE JAPAN SOCIETY OF TROPICAL ECOLOGY

Editor-in-Chief Dr. Mitsuru OSAKI

Graduate School of Agriculture, Hokkaido University, Sapporo, 060-8589, JAPAN

Phone and Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp

PRINTED BY SUDA PRINTING CO., Ltd.

PUBLICATION DATE: 31st July 2005.

TROPICS

TROPICS is issued quarterly with one volume per year. The journal publishes papers in all aspects of ecology and/or other fields of science related to ecology. It is open to the results of original research, experimental or descriptive, and to significant reviews of aspects of the ecology of tropical regions. It aims not only to act as a valued means of communication between Japanese ecologists and other field scientists, but also to stimulate the research activities of ecologists and scientists of tropical regions. All members of the society can contribute to **TROPICS**, and invited articles may be accepted at the request of the Editorial and Advisory Board. Special issues of monographs or reviews may be published on occasion by decision of the editorial board.

Editor-in-Chief: Mitsuru Osaki (Hokkaido University, Japan)

Editorial Board (All Japanese)

Ken-ichi Abe (Natl. Museum of Ethnology)
Haruo Fukuhara (Niigata Univ.)
Takashi Hirano (Hokkaido Univ.)
Mitsuo Ichikawa (Kyoto Univ.)
Takashi Inoue (Hokkaido Univ.)
Akira Itoh (Osaka City Univ.)
Naoki Kachi (Tokyo Met. Univ.)
Nobuhiro Kaneko (Yokohama Natl. Univ.)
Misa Masuda (Tsukuba Univ.)
Noboru Matsushima (Japan Wildlife Res. Center)
Koji Nakamura (Kanazawa Univ.)
Kazutaka Nakano
Ikuo Ninomiya (Ehime Univ.)
Katsutoshi Sakurai (Kouchi Univ.)
Yo-Ichiro Sato (Shizuoka Univ.)
Takuro Shinano (Hokkaido Univ., Editorial Secretary)
Seiki Yamane (Kagoshima Univ.)
Masatoshi Yasuda (FFPRI)

Advisory Board

Sanit Aksornkoe (Thailand)	Miguel D. Fortes (The Philippines)
Somsak Sukuwong (Thailand)	Xie Ping (China)
Chairatna Nilnond (Thailand)	Jingyun Fang (China)
Herwint Simbolon (Indonesia)	Linzhang Yang (China)
Supiandi Sabiham (Indonesia)	A. H. Zakri (Japan)
Sudarmadji (Indonesia)	Phan Nguyn Hong (Vietnam)
Tania June (Indonesia)	Rishi Kumar Behl (India)
Wii de Jong (Indonesia)	Mangalashery Balasundaran (India)
Abdul.M. Mokhtaruddin (Malaysia)	Mario Takao Inoue (Brazil)
Mohd Kamil Yusoff (Malaysia)	Maria Catarina Megumi Kasuya (Brazil)
Ibnahim. Faridah-Hanum (Malaysia)	Joseph Cobbina (Ghana)
Muhamad Awang (Malaysia)	
Ian Mark Turner (Singapore)	
James V. LaFrankie (Singapore)	

Instructions to authors

One original and two high-quality copies of each manuscript, preferably in English (or Japanese), should be sent to the editor-in-chief. Manuscripts should be typewritten on one side of the paper only, double-spaced throughout, and with a wide margin (more than 2 cm). Original photographs should be provided with each copy. When a paper is submitted to **TROPICS**, it is assumed that the work has not been published elsewhere and that the paper is not being submitted simultaneously to another journal. **TROPICS** accepts full papers (scientific papers), short papers (scientific papers with fewer than 4 pages when printed), field notes, selected papers from symposiums (a fee is applicable), reviews, and monographs.

Following acceptance, a copy of the manuscript must be submitted on disk. We accept files from Windows or Macintosh. Major software is acceptable, and the author should specify the type of computer system, the word processor used, and the name of the software package. Submission is preferred on CD, but 3.5-inch floppy disks and MO disks are also acceptable.

Manuscripts may be submitted to **TROPICS** by E-mail with attached files. Text, tables and figures must be in Microsoft Word, Microsoft Excel and EPS format, please do not include any tables or figures inside the text. We also accept PDF format for text, tables and figures. We are able to accept up to 3 MB file.

A contribution will be critically reviewed by two reviewers regarding the suitability of the manuscript for publication in **TROPICS**. The Editorial Committee reserves the right to make the final decision on the acceptance or rejection of the manuscript.

A cover page is required which includes a title, a running title, a list of authors names, institutes, and addresses, and the name of the corresponding author including telephone number, facsimile number, and e-mail address.

Abstract: Each paper should be provided with an abstract in English.

Key words: Several key words are required.

Citation of literature: In the text as follows: (Primack, 1991) or Ashton (1991). In the references as follows:

Primack, R. B. & Hall P. 1991. Species diversity research in Bornean forests with implications for conservation biology and silviculture.

Tropics 1: 91-111.

Jacobs, M. 1974. Botanical panorama of the Malesian archipelago. In UNESCO, Natural Resources of Humid Tropical Asia, 263-294. Paris.

Illustrations: Illustrations should be professionally drawn and lettered, or laser printed on smooth white paper. Photographs and color slides are also acceptable, but the author(s) will be charged for printing them in color.

Reprints: Fifty reprints will be supplied by actual expense 5,000 yen (JPY). The author will be charged for additional reprint orders, at 5,000 yen (JPY) per 50 reprints.

Submission: Manuscripts and correspondence concerning editorial matters should be addressed to the Editorial Office.

Editorial Office of the Japan Society of Tropical Ecology

Dr. Mitsuru Osaki (Editor-in-Chief of **TROPICS**)

Graduate School of Agriculture, Hokkaido University,

Kita-9, Nishi-9, Kitaku, Sapporo 060-8589, JAPAN

Phone & Fax. 81-11-706-4170, E-mail: mosaki@chem.agr.hokudai.ac.jp, or takuro@chem.agr.hokudai.ac.jp

Upon receipt of the manuscript, the author(s) will be informed of the date of receipt and the registration number of the manuscript. The registration number should be quoted in all correspondence thereafter.

All the manuscripts, including the proceeding, will be subjected to peer review by two outside reviewers.

The General Office of the Japan Society of Tropical Ecology

Graduate School of Asian and African Area Studies, Kyoto University

Kyoto, 606-8501, Japan

Phone: +81-75-753-7832

Fax: +81-75-753-7834

E-mail: jasteadm@asafas.kyoto-u.ac.jp