

Book Reviews

LAUMONIER, Y. 1997. *The vegetation and physiography of Sumatra*. Geobotany 22. Kluwer Academic Publishers, Dordrecht, The Netherlands. ix + 222 pp + 3 maps. ISBN 0-7923-3761-1. Price £156.00 (hardback).

Whereas most reviewers complain about the price of books at the end of their précis, I feel comment must be made at the beginning. That this 221-page book (with 20 black-and-white photographs and three separate colour maps which were first published and disseminated over 10 years ago) should be priced at £156.00 is ridiculous and does a great disservice to the potential audience, particularly in Indonesia, as well as to the author who has laboured for over 15 years to reach the level of understanding detailed in this book. My degree of annoyance would have been less if the publishers had done a good job of copy-editing, but there are typos, inaccuracies, and occasional rather 'foreign' English. At this price I feel it would have been a better strategy to publish the work as a monograph or a small number of papers.

Laumonier's book starts with a critique of the main methods used to map vegetation in the tropics as a basis and justification for the methods used in this study. It then discusses in detail the physical environment of Sumatra from which a physiographic classification of the vegetation is derived. The third chapter provides a history of the vegetation on Sumatra and surrounding areas including the changes in the influence of people over time. This is followed by a section on the phytogeography of the Malesian plant region and of Sumatra. (A mistake was noted here: Java has no endemic plant genera, not 10.) The fourth and largest chapter (accounting for over half the book) is a detailed description of each of the identified forest types, many illustrated by plot profiles and plans.

The thorough survey and mapping work has taken so long that regretfully, much of the spatial information is mainly of historical interest. Even before the dramatic fires in Sumatra caught the world's attention in late 1997, Laumonier had noted in his concluding paragraph: "The current situation of the forests of Sumatra is quite clear. There is no intact lowland forest left. Only isolated pockets remain and these are surrounded by vast cultivated areas." Given the relatively low intensity of botanical collections and the discoveries made during the surveys of new species, and of Bornean 'endemics,' it is clear that much diversity is being lost.

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SPALDING, M. D. BLASCO, F. & FIELD, C.D. (eds) 1997. *World mangrove atlas*. International Society for Mangrove Ecosystems, Okinawa 903-01, Japan. 178 pp. ISBN 4-906584-03-9. Price US\$ 60.00 (hardback).

Mangroves are a special group of plants colonising estuaries, deltas, lagoons and coasts. As pioneers in physiologically demanding habitats interfacing land and saline water, these species play a crucial role in maintaining fragile ecosystems across the tropical and sub-tropical world. As with all wild habitats, those of the mangrove are increasingly threatened as human numbers and industrial economies expand. The International Society for Mangrove Ecosystems (ISME) and the International Tropical Timber Organisation have recognised the need to conserve these habitats and their store of genetic diversity. They have encouraged and sponsored the worldwide mapping of the plants that constitute mangrove communities. The result is this splendid Atlas which charts their current range and distribution, so establishing a database across the world for more than a hundred countries that still possess indigenous mangrove forests.

The means used to map the communities is described together with their biological, sociological and economic impact on marine ecosystems and land development. Information sources are fully referenced and integrated with newer intensive ground surveys and the spectral signatures acquired by remote sensing. Scope and resolution are impressive. Double page maps

outline global mangrove distribution and those areas now protected; major species are individually charted worldwide. In depth 'case studies', large scale maps, zonation diagrams and data tables are presented – many in colour. Satellite maps are especially dramatic. Photographs depict the sad devastation of once magnificent mangrove stands. This first World Atlas summarises the combined efforts of many dedicated investigators. The authors must be congratulated on the clarity with which they have brought this rich natural resource into high quality cartographic prominence. The Atlas is a basis from which the future of mangrove ecosystems can be monitored over the years to come.

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N.b. The Atlas is available from ISME with US\$ 35 for postage & packing. (fax (81) 98 895 6602)

MACKINNON, K., HATTA, G., HALIM, H. & MANGALIR, A. 1996. *The ecology of Kalimantan*. The Ecology of Indonesia Series. Volume III. Periplus Editions, (HK) Ltd. xxiv + 802 pp. ISBN 0-945971-73-7. Price £50.00 (hardback).

Kalimantan makes up three quarters of the land mass of the island of Borneo. The rich diversity of people, natural habitats and wildlife of the island inspire awe and amazement. This book is the first to pull together all the diverse elements that make up the island; it also comes at an apposite moment, with the threats to the natural environment being highlighted during 1997 in news broadcasts covering the forest fires that burnt across large areas of Kalimantan.

The book's introduction has a useful overview of the physical and biological elements of Borneo, followed by a fascinating summary of the human history of the island. The book is then divided into sections which cover all habitat types: coastal, freshwater, lowland rainforest and other lowland forest formations, limestone habitats and mountains.

The main meat of the book lies in the second half, where the resources of the island are discussed in terms of their fragility, potential for over-exploitation or wrongful management, and the economic potential if they are sustainably managed for the long-term benefit of all. Chapters deal with traditional and modern land use and the often reckless way in which natural habitats are being exploited today. Worst case scenarios are compared with best case scenarios in an erudite and effective way. A few home truths are spelt out: forest clearance for logging and intensive agriculture is destroying rich natural ecosystems and replacing them with unsustainable agricultural systems; Kalimantan's generally poor soils are not suited to intensive agriculture (Kalimantan can support 50 times fewer people than fertile Java); the future for land use in Borneo lies in combining the sustainable harvesting of natural resources with the development of agroforestry systems combining cash and staple crops, rather than the often ludicrous and destructive land use policies employed today. The book ends with a summary of the conservation effort in Borneo, and the need to protect sufficient areas of natural habitat within reserves (the authors suggest that at least 10 percent of natural habitats should be protected).

The lead author's involvement with Borneo over many years, and her current strong interest and involvement in conservation issues in Indonesia, provide a thought provoking and revealing series of discussions about the status of the natural habitat in Borneo and possible solutions to the problems the island faces.

The volume is encyclopaedic in its knowledge of the subjects it covers, as a single volume it is extremely valuable, and a unique resource. The text is well written and accessible, it puts over ideas clearly and in an uncomplicated way, and will appeal to a wide audience. It is possible that some scientists will complain that the text, and in particular the ecological ideas described here, are over simplified: these people miss the importance and real value of this book as an educational and reference tool. *The ecology of Kalimantan* is an immense achievement.

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