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BAKO — Biodiversity Between Land and the Sea

Edited by Mohd-Azlan, Suaidi & Das

Life from Headwaters
to the Coast

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Biodiversity
Between Land
and the Sea

Edited by

Jayasilan Mohd-Azlan
Mohamad Kadim Suaidi
Indraneil Das

UNIMAS
UNIVERSITI MALAYSIA SARAWAK

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Half-page: Sea Stack. Photo: Hans Hazebroek

Front cover: Silvered Langur. Photo: Chien C. Lee

Frontispiece: Sandstone gate at Telok Tajor. Photo: Hans Hazebroek

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CONTENTS

Foreword vii
by YB Dato Sri Haji Abdul Karim
Rahman Hamzah

Preface ix

Introduction 1

Introduction

General Section

Reminiscences of Bako..... 3
by Gathorne Cranbrook

Geology and Geomorphology..... 5
by Hans Hazebroek

Floral Accounts

The Vegetation 19
by Meekiong Kalu, Stephen
Teo Ping, Mohd Effendi Wasli,
Nursafinas Jelani, Mohd Akmal
Mohd Raffi and Yazid Kalbi

Two Endemic Herbs..... 25
by Wong Sin Yeng

Carnivorous Plants..... 29
by Chien C. Lee

Mushrooms 35
by Mohamad Hasnul Bolhassan,
Mohd Haqim Mohd Haizar Nazry,
Nur Atiqah Asiqin Sulaiman Khan,
Mohamad Nurfazillah Mohamad
Ramzie Faizal and Fatimah Daud

Faunal Accounts

Mosquitoes..... 37
by Wong Siew Fui, Ichiro Miyagi,
Takako Toma and Takao Okazawa

Dragonflies and Damselflies 41
by Rory Dow and Graham T. Reels

Butterflies..... 47
by Pang Sing Tyan, Ratnawati
Razali and Wan Nurainie Wan
Ismail

Land Snail 53
by Mohd Zacaery Khalik and
Mohammad Effendi Marzuki

Crabs and Shrimps 57
by Jongkar Grinang

Inland Fishes 60
by Kelvin K. P. Lim

Amphibians 65
by Indraneil Das, Ramlah
Zainudin, Pui Yong Min, Elvy
Quatrin Deka and Taha Wahab

Reptiles 69
by Indraneil Das, Pui Yong Min,
Sabariman Hassan and Taha Wahab

Birds..... 77
by Mohamad Fizl Sidq Ramji,
Nurul Ashikeen Ab Razak, Ivana
Berlinda Bilang, Rahah Mohd.
Yakup, Isa Sait and Badiozaman
Sulaiman

Bats	91	Proboscis Monkey.....	114
by Faisal Ali Anwarali Khan, Muhd Amsyari Morni, Julius William-Dee, Norfarhana Mazlan, Wan Nur Syafinaz Wan Azman, Emy Ritta Jinggong, Nur Afiqah Aqilah Azhar, Roberta Chaya Tawie Tingga, Mohd Ridwan Abd Rahman and Isham Azhar		by Bolhan Budeng, Joan Bentrupperbäumer and David Gillieson	
Non-volant Small Mammals	95	Silvered Langur.....	117
by Faisal Ali Anwarali Khan, Julius William-Dee, Muhd Amsyari Morni, Nor Al-Shuhadah Sabarudin, Muhammad Amin Iman Azmi, Syamzuraini Zolkapley, Roberta Chaya Tawie Tingga, Mohd Ridwan Abd Rahman and Isham Azhar		by Bolhan Budeng, Joan Bentrupperbäumer and David Gillieson	
Large Mammals	99	Sunda Colugo.....	120
by Mohd-Azlan Jayasilan and Sally Soo Kaicheen		by Dzulhelmi Nasir and Nursyereen Mohd Nasir	
Species Highlights		Bearded Pig.....	123
Saltwater Crocodile.....	106	by Mohd-Azlan Jayasilan and Sally Soo Kaicheen	
by Engkamat Lading and Indraneil Das		Human Dimensions	
Bornean Green Pit-viper	111	Ecotourism.....	125
by Veronica Martin and Indraneil Das		by Arianti Atong, Abang Norizan Abang Median, Jalani Kelat and Suhaili Mokhtar	
		Contributor Affiliations	131

FOREWORD

Sarawak retains some of the richest biodiversity in the world. It is home to many endemics and species of conservation importance. Some of the best examples can be found in the State's extensive network of protected areas. Many of us here in the Ministry continuously explore the exquisiteness of biodiversity in the hopes of harnessing and sharing of information with the general public, to appreciate such elements present in our protected areas. This book represents but a sample of the work done by academics in the realm of biodiversity from Universiti Malaysia Sarawak and experts from various other agencies. I would like to commend the efforts by these researchers who supported us in collecting information on the biodiversity in such species-rich areas as Bako, which forms the material for the book.



The work is also expected to be important for local communities, to enhance their understanding, appreciation and perhaps eventually, guide their use of such resources sustainably, acting as an interpretation tool to guide ecotourists and naturalists.

As will be evident to the readership, a variety of approaches have been taken by the authors of the volume. Sections, starting with reminiscences from the early days by the Earl of Cranbrook, and on geology and geomorphology, are divided along taxonomic and thematic lines. These include a general account of the tree flora and selected herbaceous flora, a review of carnivorous plants and one on the mushrooms. The faunal accounts include both invertebrates and vertebrates, ranging from mosquitoes to monkeys. A section highlights the biology of Bako's charismatic species, that attract so many tourists to the Park. Finally, the section on human dimensions round up the volume, with a chapter on ecotourism in Bako National Park.

FOREWORD

It is my hope that this book will contribute in a significant way by encouraging more people to appreciate nature, explore our biodiversity and win more supporters. I anticipate that this volume will be useful to stakeholders to whom we remain connected through our common views on biodiversity conservation for the future generation.



Yang Berhormat Dato Sri Haji Abdul Karim Rahman Hamzah
Minister of Tourism, Creative Industry, Performing Arts;
Minister of Youth, Sports & Entrepreneur Development Sarawak



INTRODUCTION

Jayasilan Mohd-Azlan, Mohamad Kadim Suaidi and Indraneil Das

The State of Sarawak, with an area of approximately 124,450 km², has one of the most established networks of protected areas within Malaysia, representing some of the most megadiverse rainforests of the world. The landscape ranges from coastal lowlands, comprising peat swamps, as well as narrow deltaic and alluvial plains, to a vast hinterland of undulating low hills, that barely reach 300 metres, to the mountainous highlands, that extend to the international border in the interiors of Borneo. The State currently has 67 Totally Protected Areas (including National Parks, Wildlife Sanctuaries and Nature Reserves), scattered throughout the State, a majority located in western Sarawak

Bako National Park is the oldest National Park in Sarawak. Established in 1957, it covers an area of 27.27 km². Its rocky coast, rare in western Sarawak, shows cliff vegetation overseeing turquoise bays. The coastline is characterised by numerous bays, cliffs, beaches, and rock formations, including the picturesque Sea Stack at Telok Pandan Kecil. The coastal area facing the South China Sea allows a majestic view of Gunung Santubong. Around the mangroves, Proboscis monkeys and Silvered langurs can be sighted with little effort both during early mornings and evenings, while Bearded Pigs are relatively common in the beach forest. The Park thus allows visitors close encounters with several species of conservation importance in their natural habitats, and is consequently a favoured destination of both local and international tourist.

Bako is clothed with a variety of forest types- mangroves, beach forest, cliff vegetation, nipah, Kerangas, riverine and mixed dipterocarp forests. The mangrove forest fringes the lower reaches of the river, where it forms a fine band near the mouth, and gradually tapers out upstream. Mangrove plant species, such as *Avicennia* and *Sonneratia* thrive near the river mouth, while *Rhizophora* extends further away, and Nipah palms (*Nypa fruticans*) form strands even further inland and near areas that are flooded during high tides. Beach forests stretch along rocky shoreline and occur at Teluk Asam, Teluk Delima, Teluk Paku, Teluk Pandan Kecil, Pandan Besar, Tanjung Rhu, Teluk Tajor, Telok Sibur, Telok Limau and Telok Keruin. The dominant trees in the beach forests are ‘*Ru laut*’ (*Casuarina equisetifolia*), the sea hibiscus or ‘*Baru-baru*’ (*Hibiscus tiliaceus*), ‘*Nyatoh laut*’ (*Pouteria obovata*) and ‘*Putat laut*’ (*Barringtonia asiatica*). Kerangas forest patches are relatively common,

INTRODUCTION

and dominated by genera such as *Gymnostoma*, *Dacrydium*, *Cotylelobium* and *Dacrydium*. Pitcher plants can be observed in the more open areas. Mixed dipterocarp forests are mostly confined to the hills (Bukit Keruing and Bukit Gondol) in the south-eastern part of the National Park and on patches of elevated, well-drained terrain elsewhere. Mixed dipterocarp forests have rich flora with tall trees, such as members from Anisoptera, *Dipterocarpus*, *Shorea*, *Dryobalanops*, *Artocarpus* and *Lithocarpus*. A network of trekking trails and plank walks links the various habitats. This leaves the central and the south-eastern section of the Park relatively undisturbed as a core conservation area.

Promoting protected areas as tourist attractions has the potential to spur socioeconomic growth, as well as engage the public in conservation and management. Local communities can play an essential role in assisting the authorities detect environmental change and in managing natural resources through traditional ecological knowledge. Therefore, synergy between scientific research and traditional knowledge should be regarded as central for biodiversity conservation.

This modest compilation provides updated information on many elements of the biodiversity of Bako National Park and the species of conservation importance there, as well as highlight its ecotourism potential and the response of local communities for future management decisions.

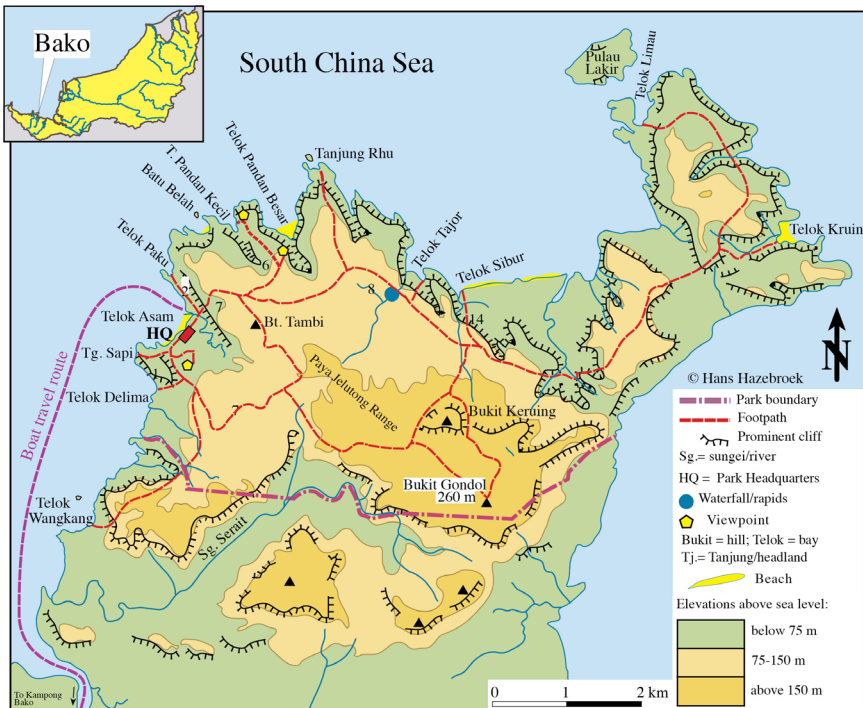


Fig. 1. Topographic map of Bako National Park. Map copyright: Hans Hazebroek.