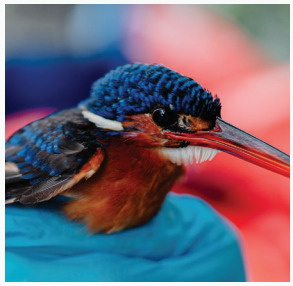
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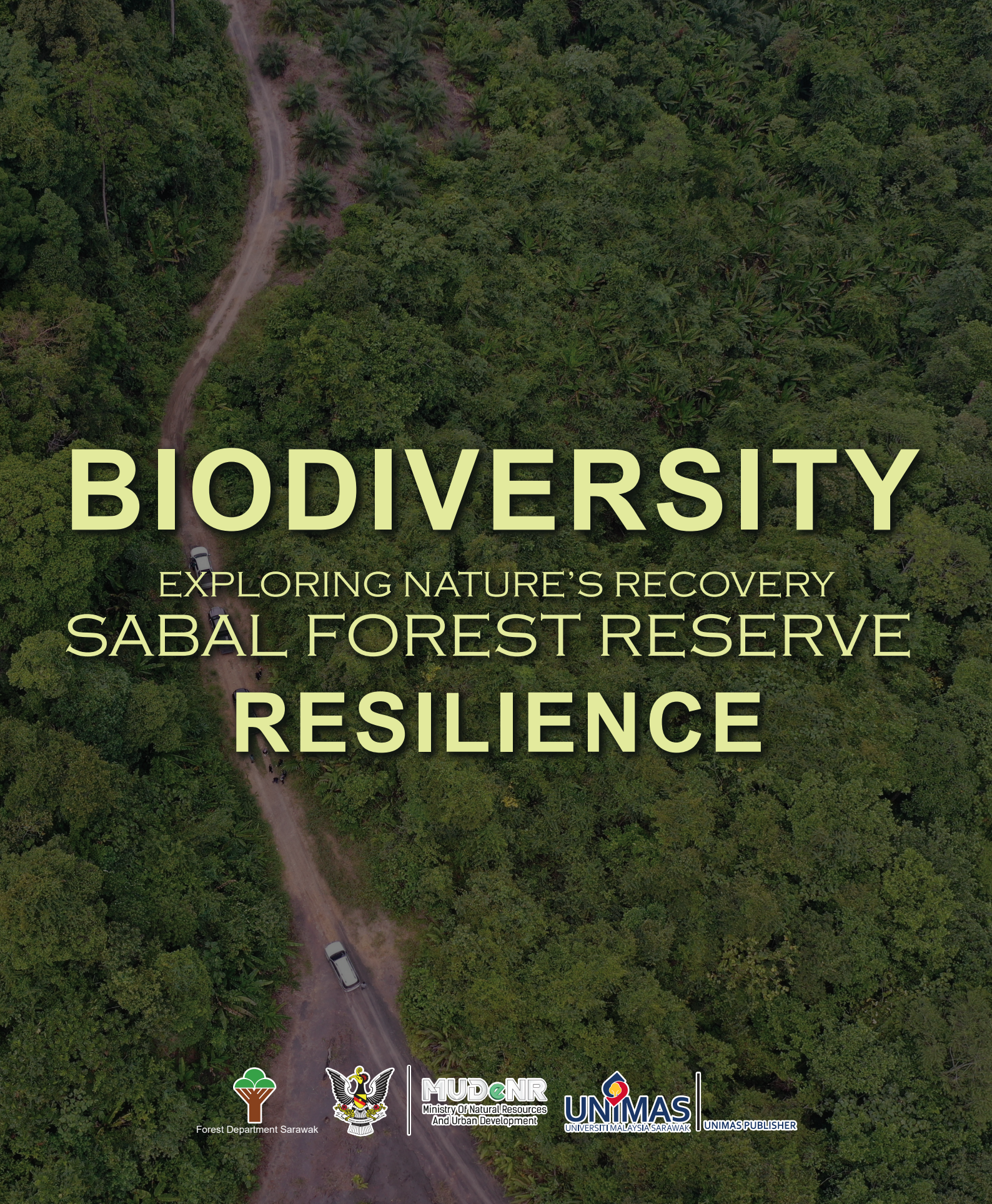





SABAL FOREST RESERVE

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Runi Anak Sylvester Pungga, Meekiong Kalu, Faisal Ali Anwarali Khan

Forest Department Sarawak
MUDeNR Ministry Of Natural Resources And Urban Development
UNIMAS UNIVERSITI MALAYSIA SARAWAK



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RESILIENCE

Forest Department Sarawak
MUDeNR Ministry Of Natural Resources And Urban Development
UNIMAS UNIVERSITI MALAYSIA SARAWAK
UNIMAS PUBLISHER

Published by

Forest Department Sarawak
Ibu Pejabat Jabatan Hutan
Aras 11-15,
Bangunan Baitul Makmur II
Medan Raya, Petra Jaya,
93050 Kuching, Sarawak
Website: https://forestry.sarawak.gov.my/

and

UNIMAS Publisher
Universiti Malaysia Sarawak
94300 Kota Samarahan, Sarawak
Website: www.unimas.my

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First published 2026

Biodiversity Resilience: Exploring Nature's Recovery Sabal Forest Reserve

By
Mohd Zacaery Khalik, Dayang Nuriza Abang Abdillah, Azahari Omar, Runi Anak Sylvester Pungga, Meekiong Kalu, Faisal Ali Anwarali Khan

ISBN 978-629-96376-6-0

Printed in Malaysia



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Beetles

Siti Nurlydia Sazali, Ratnawati Hazali, Nur Hidayatun Niesha Sapri,
Ameirah Natasya Asfaromey, Nurfarida Anum Zainaddin, Liu Siew Ying,
Gloria Chrissa Gabriel, Rafiq Hakimi Faizal, Mohamad Jalani Mortada & Tan Wei Lim

Beetles are the most abundant animals in the world, representing the largest group of insects in the order Coleoptera. In general, beetles can be distinguished through its chitinuous forewings, having hard exoskeleton and with strong mandibles. Due to their highly adaptive characteristic, beetles can be found almost anywhere, in many different types of habitat and vegetation, even nearby our surroundings in the yards and homes. With such diverse distributions, beetles have significant contributions particularly in the tropical ecosystems, of which they possess many ecologically important roles including as pollinators, seed dispersal agents, biological controllers, decomposers, nutrient cycling agents as well as essential in the food webs. Nonetheless, they also are economically important of which many are disease vectors to human and animals, and act as notorious pests to agricultural and plantation sectors. However in reality beetles' presence are much overlooked due to their morphology, which majority are relatively small in size (body length about than 15 mm or less) and commonly found in solitary, rather in swarms or colonies like other insects such as bees, termites or ants.





As part of enriching biodiversity's literature and knowledge in our tropical rainforest in Borneo, a scientific expedition has been organised by the Forest Department Sarawak in collaboration with Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, held from 23rd to 29th November 2024 at Sabal Forest Reserve, Simunjan. During this 7-day expedition, a total of 139 individuals of beetles representing 70 species from 20 families were successfully recorded. Overall, the most dominant family was recorded by Scarabaeidae with 42 individuals (30.2%) (Figure 1). Meanwhile, the most diverse beetle family was also documented by Scarabaeidae (Figure 2) with 15 species (21.4%), followed by Elateridae (Figure 3) with 10 species (14.3%) and Carabidae (Figure 4) with 9 species (12.9%), respectively. In general, this study presented the first checklist of beetles at Sabal Forest Reserve that suggests high species richness of insects in this protected area. Therefore, it is recommended that further studies should be initiated by considering other trapping methods such as the Malaise trap, and also to conduct the study during dry season to discover other potential beetle species.



Figure 1. *Maladera* sp.



Figure 2. *Holotrichia serrata*



Figure 3. *Conoderus lividus*



Figure 4. *Cosmodela aurulenta*

Table 1. A checklist of beetles from Sabal Forest Reserve, Simunjan.

Family/Subfamily	Species	Number of Individuals
Attelabidae		
Apoderinae	*Centrocorynus* sp.	1
Carabidae		
Cicindelinae	*Cosmodela aurulenta*	3
Harpalinae	Harpalinae sp.	2
	Mochterus sp. 1	1
	Mochterus sp. 2	1
	Mochterus sp. 3	2
	Poecilus sp.	3
Lebiinae	*Allocota viridipennis*	3
	Lebiinae sp.	1
Trechinae	Trechinae sp.	2
Cerambycidae		
Lamiinae	*Batocera thomsoni*	1
	Granulorsidis cariosus	1
	Imantocera penicillata	1
Chrysomelidae		
Chrysomelinae	*Chrysomelinae* sp. 1	1
	Chrysomelinae sp. 2	1
Galerucinae	*Aulacophora pastica*	1
	Podagrica sp. 1	1
Eumolpinae	*Eumolpinae* sp. 1	3
	Eumolpinae sp. 2	1
	Eumolpinae sp. 3	1
Coccinelidae		
Coccinelinae	*Coccinella transversalis*	1
Curculionidae		
Cryptorhynchinae	*Sternochetus mangiferae*	3
Curculioninae	*Curculioninae* sp. 1	1
	Curculioninae sp. 2	1
Dryophthorinae	*Rhodobaenus* sp.	14
	Rhynchophorus vulneratus	1
	Dryopthorinae sp.	1
Scolytinae	*Scolytinae* sp.	1

Table 1. A checklist of beetles from Sabal Forest Reserve, Simunjan.

Family/Subfamily	Species	Number of Individuals
Dytiscidae		
Laccophilinae	*Neptosternus* sp.	1
Elateridae		
Agrypninae	*Agrypnus* sp. 1	1
	Agrypnus sp. 2	1
	Conoderus lacteus	1
	Conoderus lividus	4
	Lacon sp.	1
Elaterinae	*Elaterinae* sp.	1
	Melanotus sp. 1	3
	Melanotus sp.2	1
	Melanotus sp. 3	1
Oxynopterinae	*Oxynopterinae* sp.	1
Endomycidae		
Lycoperdininae	*Eumorphus westwoodi*	2
Erotylidae		
Erotylinae	*Amblyopus vittatus*	6
	Aulacocheilus doriae	1
	Erotylinae sp.	1
Euchadidae		
	Eulichas fasciolata	1
Lycidae		
Lycinae	*Cautires sukosarensis*	1
	Cautires taoi	3
	Lycinae sp.	1
Nitidulidae		
Nitidulinae	*Nitidulinae* sp.	1
Noteridae		
Noterinae	*Noterinae* sp.	1
Rhagophthalmidae		
	Diplocladon sp.	1
Rhipiceridae		
Cebrioninae	*Cebrioninae* sp.	3

Table 1. A checklist of beetles from Sabal Forest Reserve, Simunjan.

Family/Subfamily	Species	Number of Individuals
Scarabaeidae		
Aphodiinae	*Aphodiinae* sp.	1
Melolonthinae	*Apogonia destructor*	2
	Apogonia waterstradti	2
	Apogonia sp.	11
	Asactopholis pectoralis	1
	Holotrichia loochooana	3
	Holotrichia serrata	2
	Hoplia sp.	1
	Maladera sp.	12
Rutelinae	*Anomala* sp. 1	1
	Anomala sp. 2	1
	Anomala sp. 3	1
	Anomala pallida	2
	Parastasia sp.	1
Scarabaeinae	*Paragymnopleurus striatus*	1
Staphylinidae		
Staphylininae	*Staphylininae* sp.	1
Tenebrionidae		
Stenochiinae	*Strongylium* sp.	1
Lampyridae		
Luciolinae	*Colophotia* sp.	1
	Pteroptyx sp.	1
20 families	**70 species**	**139 individuals**

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