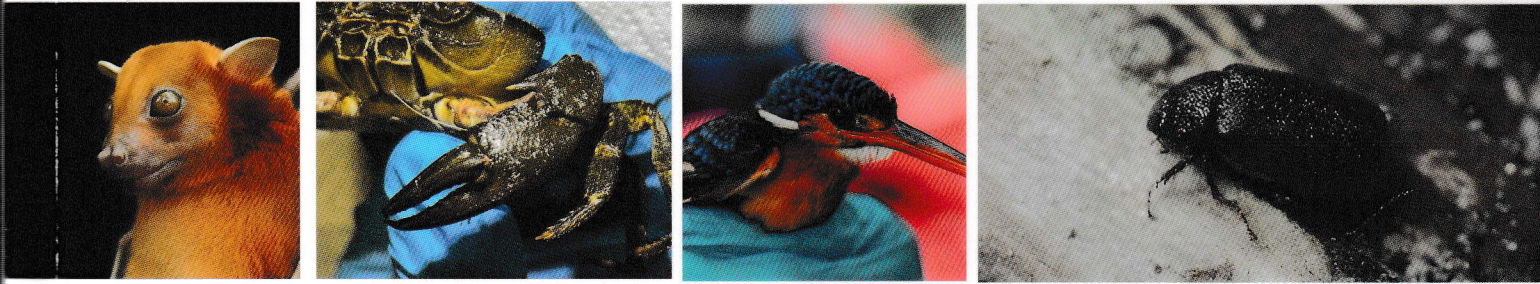
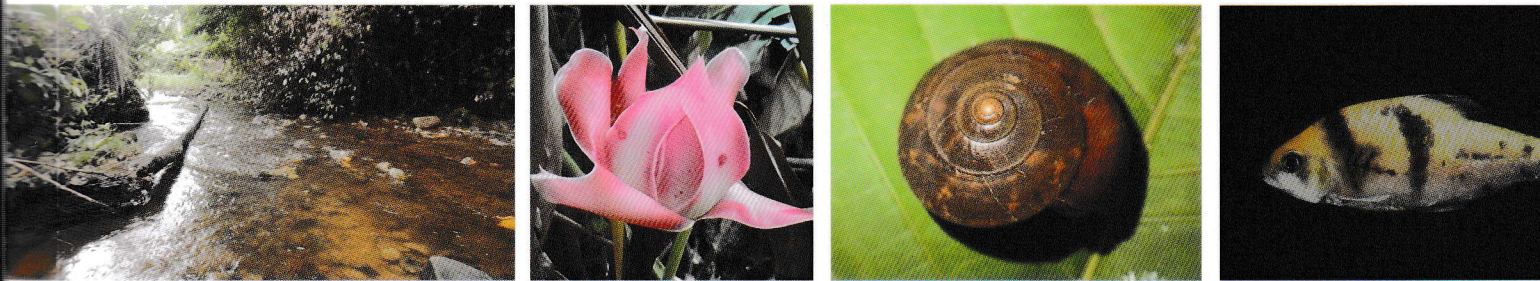


EXPLORING NATURE'S RECOVERY



BIODIVERSITY RESILIENCE



SABAL FOREST RESERVE

Edited By

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



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Recovery Sabal Forest Reserve

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Orchids

Mohd Akmal Mohd Raffi, Meekiong Kalu, Zinnirah Shabdin, Haniza Razali, Yazid Kalbi, Ain Johari, Charlen Joyce Chakiris & Farah Alia Nordin.

Assessing the floristic composition of any forest type (whether pristine, fragmented or disturbed) is incomplete without incorporating members of the family Orchidaceae. The presence of orchids in a locality is often used as a bioindicator of ecosystem health due to their extensive and complex interaction with the ecological components. Therefore, the inclusion of orchids in a floristic account suggests that ecosystem is functioning well. This may be attributed to the high diversity of orchids in Sarawak, where more than 1000 species are found, sparsely distributed across a wide range of habitats. Considering Sarawak's vast forested land that remains under-botanized, such as the Sabal Forest Reserve, continuous efforts in orchid studies are necessary to understand not only overall floral diversity but also their roles in specific localities and areas.

The orchids in Sabal were observed in-situ and selected sighted individuals that were not flowering during the scientific expedition were collected and cultivated as living specimens in UNIMAS Orchidarium for further investigation. To date, 11 orchid genera have been successfully recorded in the Sabal Forest Reserve and its adjacent areas which were *Acanthophippium*, *Coelogyne*, *Dipodium*, *Dendrobium*, *Hetaeria*, *Malaxis*, *Neuwiedia*, *Pinalia*, *Plocoglottis*, *Robiquetia* and *Vanilla*. Although *Bulbophyllum* was not encountered during fieldwork in the study area, its presence is expected if the sampling area is expanded, as *Bulbophyllum* species are common in Sarawak forests. The identified species and their growth forms for each genus are presented in Table 1. Taxa that could not be identified due to the absence of reproductive structures or insufficient diagnostic data were designated as sp. or cf. accordingly.



Table 1. Preliminary checklist of orchids diversity in Sabal Forest Reserve and its adjacent areas.

Genus	Species	Growth Form
<i>Acanthopippium</i>	<i>Acanthopippium javanicum</i> Blume	Terrestrial
<i>Coelogyne</i>	<i>Coelogyne incrassata</i> (Blume) Lindl	Epiphyte
<i>Dipodium</i>	<i>Dipodium ambiguum</i> P.O'Byrne, Gokusing & A.Lamb	Hemiepiphyte (Climber)
	<i>Dipodium paludosum</i> (Griff.) Rchb.f.	Hemiepiphyte (Climber)
<i>Dendrobium</i>	<i>Dendrobium</i> sp.	Epiphyte
<i>Hetaeria</i>	<i>Hetaeria</i> cf. <i>obliqua</i>	Terrestrial
<i>Malaxis</i>	<i>Malaxis</i> sp.	Terrestrial
<i>Neuwiedia</i>	<i>Neuwiedia veratrifolia</i> Blume	Terrestrial
<i>Pinalia</i>	<i>Pinalia</i> sp.	Epiphyte
<i>Plocoglottis</i>	<i>Plocoglottis javanica</i> Blume	Terrestrial
<i>Robiquetia</i>	<i>Robiquetia spathulata</i> (Blume) J.J.Sm.	Epiphyte
<i>Vanilla</i>	<i>Vanilla</i> cf. <i>borneensis</i> .	Hemiepiphyte (Climber)

Among the notable findings was the documentation of the primitive orchid species *Neuwiedia veratrifolia*, which represents an early evolutionary lineage of the Orchidaceae. Furthermore, the record of three climbing species from the genera *Dipodium* and *Vanilla* suggests that forest ecosystem services in Sabal remain functionally intact, supporting ecological processes at both the rhizosphere and above-ground levels (Figure 1). On the other hand, identification of the collected *Hetaeria* specimens proved challenging, despite the opportunity to examine the flowers *ex-situ* (Figure 2). Until accurate species-level identification is achieved, these specimens are nevertheless considered potentially significant and may contribute to novel findings.

Although the orchid diversity presented here is relatively low compared to the overall species recorded in Sarawak, this study represents an important contribution to the understanding of the family Orchidaceae; particularly as baseline data for Sabal Forest Reserve and Western Sarawak.

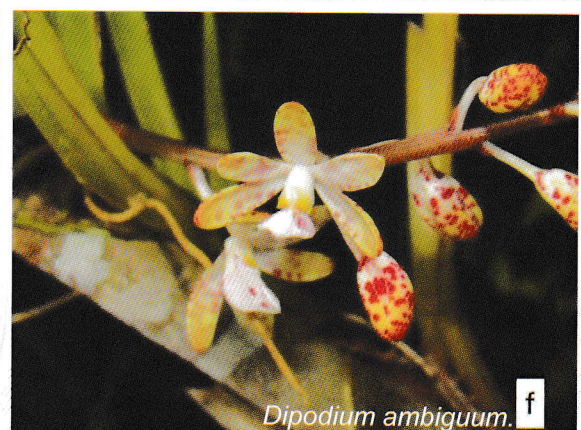
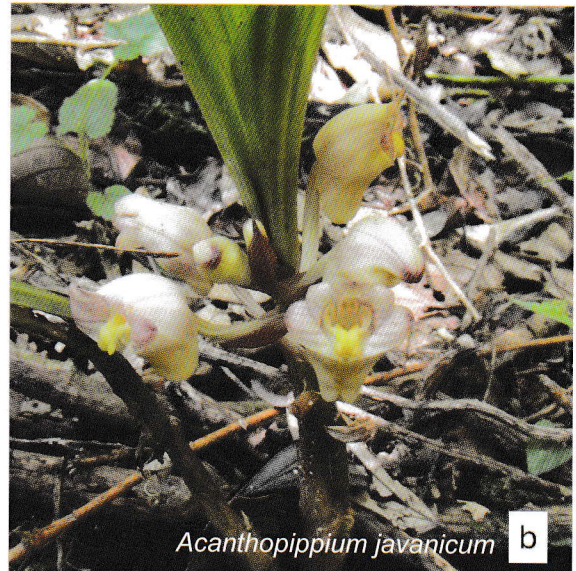


Figure 1. Orchids of Sabal Forest Reserve and its adjacent areas.



◀ **Figure 2.**

The reproductive and vegetative structures of *Hetaeria cf. obliqua* collected from Sabal Forest Reserve.

