

Botanical exploration of Gunung Ulu Temin and Gunung Tan Hain in the Royal Belum State Park, Perak, Malaysia

S. Syahida-Emiza, Y.H. Cheah & M.Y. Siti-Munirah
Forest Research Institute Malaysia, 52109, Kepong, Selangor, Malaysia
(syahida@frim.gov.my)

18th Flora of Thailand Conference



@ Saw LG

Conamomum utriculosum (Zingiberaceae)

Malaysia Plant Red List: Not Evaluated
Habitat: Uncommon, found in mountain localities up to about 1220 m.
Distribution: Peninsular Malaysia and Sumatera. New record for the RBSP.



@ Cheah YH

Alyxia angustifolia (Apocynaceae)

Malaysia Plant Red List: Near Threatened nearly meeting VU b2ab(iii)
Habitat: In heath (padang) vegetation on mountain summits to 2100 m.
Distribution: Borneo, Peninsular Malaysia & the Philippines. New record for Perak.



@ Syahida-Emiza S

Codonboea oreophila (Gesneriaceae)

Distribution: Endemic in Peninsular Malaysia, formerly known only from Gunung Stong State Park, Kelantan.
Habitat: Mossy ground and mossy base of trees, and on earth banks on ridges in upper montane forest above 1000 m altitude. New record for the RBSP.

Summary

The Royal Belum State Park (RBSP) is situated in the north of Perak, Peninsular Malaysia, and spanning an area of 117,500 hectares. It is part of the Titiwangsa main range, flanked by Hala Bala Wildlife Sanctuary and Bang Lang National Park in Thailand to the north, Gerik Forest Reserve (FR) to the southwest, Aman Jaya FR and Banding FR to the south, and Gunung Basor Gantian FR and Sungai Betis Gantian FR in Kelantan to the east. Being one of the oldest tropical rainforests in the country, the RBSP has much to offer. Not only does it harbour diverse flora and fauna, but it is also home to the aboriginal people such as the Negrito tribe. Given the importance of the RBSP as a reservoir and refuge for many lives, it is, therefore, a necessity to call for tougher safeguards to protect the area. To achieve this goal, the RBSP was gazetted as a state park on 3rd May 2007. Since then, the RBSP has taken steps to further strengthen its protection by preparing for nomination as a UNESCO World Heritage Site, under the Natural Heritage category. Consequently, several scientific explorations have been organised to document the diversity of the state park such as the botanical expedition to lesser-known areas within the park, including Gunung Ulu Temin (1424 m) and Gunung Tan Hain (1500 m), both close to the border of southern Thailand. This expedition was conducted from 28 February to 7 March 2022 in collaboration between RBSP and Forest Research Institute Malaysia (FRIM). It followed the existing trails used by the aboriginal people of the park.

The exploration covered different forest types of the two mountains, including lowland dipterocarp forest, hill dipterocarp forest, and lower montane forest, encompassed riparian and ridge vegetation. A total of 618 flowering and fruiting specimens as well as sterile specimens of major timber trees were collected during the expedition. According to the preliminary result, they belonged to 110 families and 213 genera. Many of which are members of Rubiaceae, Annonaceae, Zingiberaceae, Palmae/Arecaceae, Dipterocarpaceae, Lauraceae, Myrtaceae, Gesneriaceae, Guttiferae/Clusiaceae and Myrsinaceae. The species composition showed traces of Thai-elements owing to its close proximity to the borders of southern Thailand. Biogeographically, the RBSP falls within the Continental Intrusion, one of the four recognised phytogeographical provinces of Peninsular Malaysia. With the results from this botanical study, knowledge gaps on vegetation and species diversity in the border region between Malaysia and Thailand could gradually be filled. The compilation of this baseline data thus serves the purpose in preparing the dossier for the nomination of the RBSP as a UNESCO World Heritage Site. FRIM, in turn, has all the specimens deposited in the Kepong Herbarium (KEP), which will certainly enrich the existing collections. The RBSP could utilise the present results in drawing guidelines for biodiversity conservation management and develop nature-related programmes as part of the community outreach efforts.

Summary of family richness based on preliminary results

No	Family	Total genera	Total specimens
1.	Rubiaceae	14	56
2.	Annonaceae	7	17
3.	Zingiberaceae	6	14
4.	Dipterocarpaceae	5	30
5.	Palmae/ Arecaceae	5	36
6.	Lauraceae	4	20
7.	Myrtaceae	4	16
8.	Guttiferae/ Clusiaceae	3	17
9.	Gesneriaceae	3	22
10.	Myrsinaceae	2	19



@ Cheah YH

Lycopodiastrum casuarinoides (Lycopodiaceae)

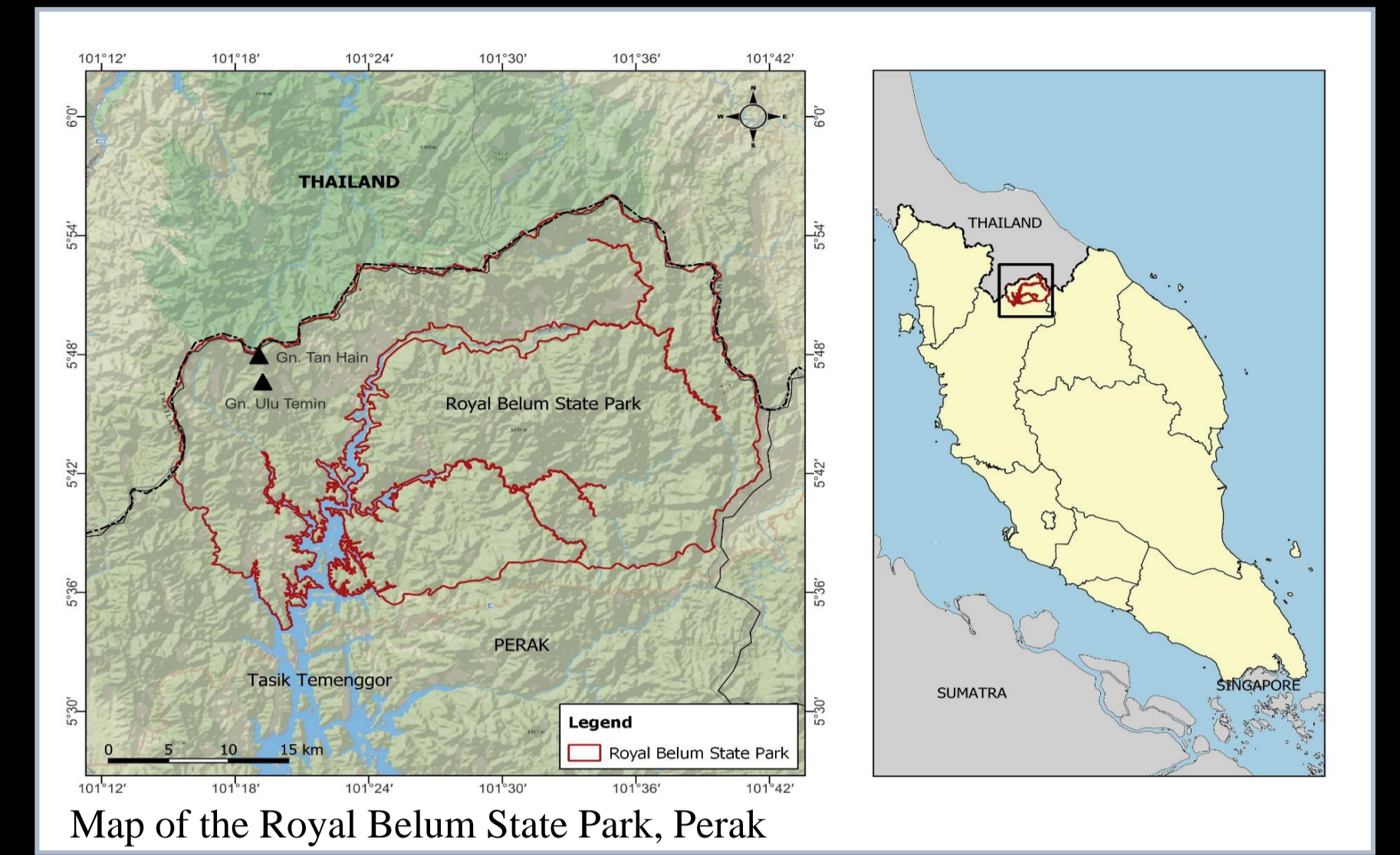
Malaysia Plant Red List: Least Concern
Habitat: Scrambling on trees in light shade or fully exposed on summits up to 2050 m altitude.
Distribution: Borneo (Sabah & Sarawak), China, India, Japan, Myanmar, New Guinea, Peninsular Malaysia, the Philippines, Sulawesi, Sumatra, Taiwan & Thailand. New record for the RBSP.



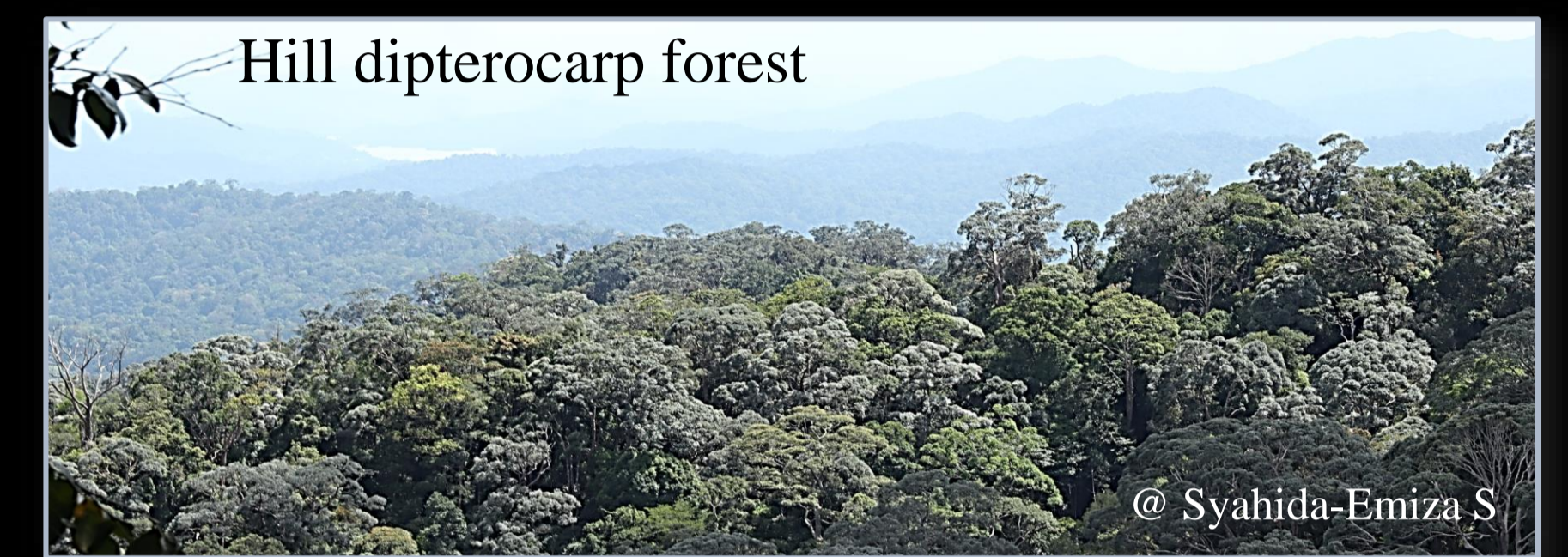
@ Saw LG

Geostachys belumensis (Zingiberaceae)

Malaysia Plant Red List: Vulnerable (VU D2)
Distribution: Peninsular Malaysia, localised at Belum Forest Reserve, endemic to Perak.
Habitat: Hyper-endemic. On the ridge up to at 1000 m altitude.



Map of the Royal Belum State Park, Perak



Hill dipterocarp forest

@ Syahida-Emiza S



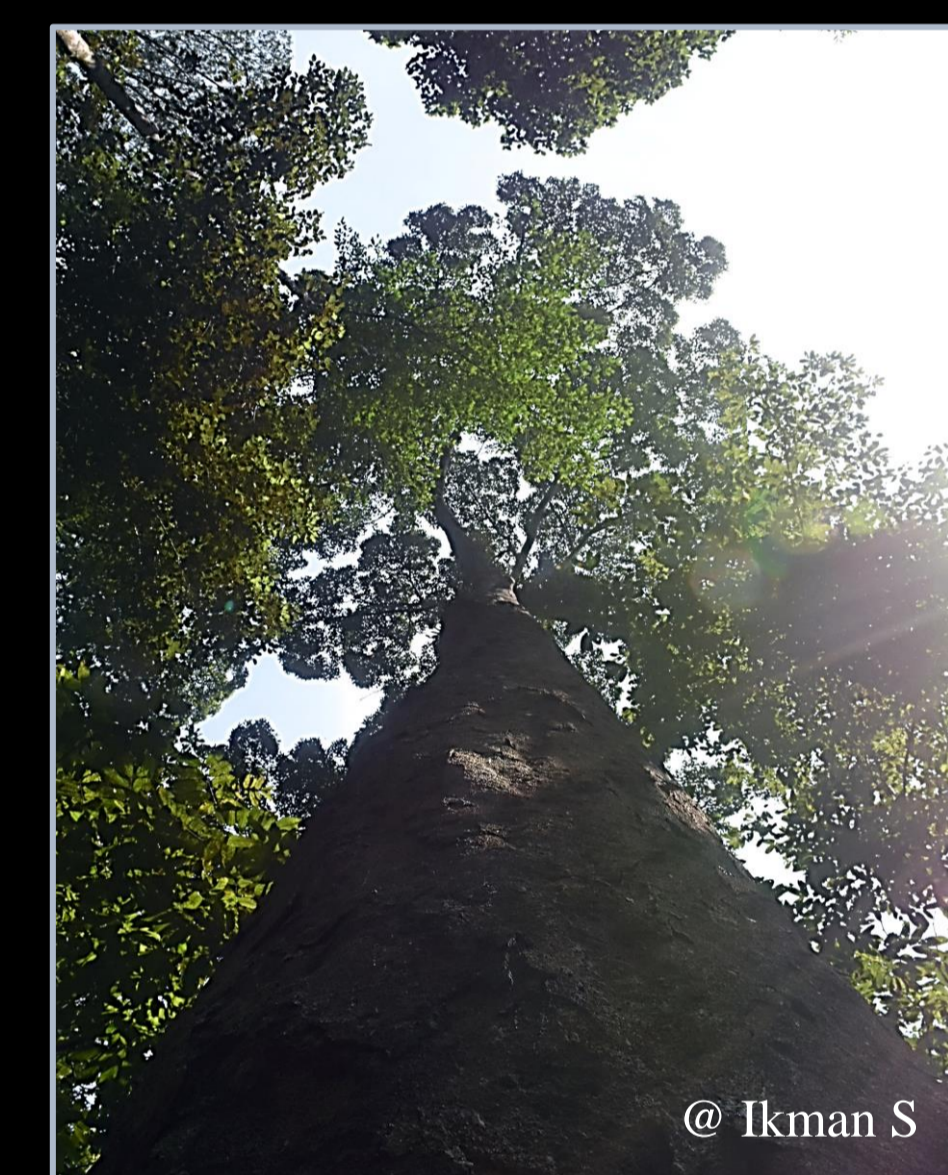
Riparian vegetation

@ Siti-Munirah MY



Montane forest

@ Imin K



@ Ikman S



@ Ikman S



@ Chua LS

Dipterocarpus fagineus (Dipterocarpaceae)

Malaysia Plant Red List: VU A4c for Malaysia; VU B2b(iii)c(ii) for Peninsular Malaysia
Habitat: Hill and coastal hill forests between 200 m to 1000 m altitude.
Distribution: Peninsular Malaysia, Borneo (Sarawak) & Sumatra. New record for the RBSP.



@ Saw LG



@ Saw LG

Iguanura bicornis (Palmae/Arecaceae)

Malaysia Plant Red List: Not Evaluated
Habitat: Relatively common in mountain forests, typically at elevations of 400 to 1500 meters.
Distribution: Peninsular Malaysia & Thailand.

Acknowledgements

We thank the Ministry of Energy and Natural Resources (KeTSA), Forest Research Institute Malaysia (FRIM), Perak State Parks Corporation, Kepong Herbarium staff members, contributors of images, Ms. Wendy Yong Sze Yee for preparing the map, and Mr. Mohamad Aidil Noordin for designing this poster. This research was carried out under the project "Dokumentasi dan Konservasi Biodiversiti Demi Kesejahteraan Hutan dan Kemampuan Sumber Semulajadi (Fasa 2): Komponen Diversiti, Dokumentasi dan Status Konservasi Tumbuhan bagi Pengurusan Sumber Hutan Secara Mampan Di Malaysia".