

SARAWAK DELTA GEOPARK

GE



2023 Edition

TALK

Bulletin

Sarawak Delta Geopark

EXPEDITION

BENCHMARKING VISIT TO

Jeju Island

UNESCO Global Geopark

**KARST
FORMATION**

of Western Sarawak



From the EDITOR

Dear Reader,

Welcome and nice to meet you again in another issue of Geotalk Bulletin

Welcome to the latest edition of our Geotalk Bulletin. It is my pleasure to present to you an exciting collection of articles that we have carefully curated for your reading pleasure.

The series of 2023 has never been more exciting. In this issue, we serve you with another interesting content featuring geological information and SDGp Expedition as our highlights. Indeed, this publication serves as a medium for sharing information on our splendid geopark, articles from various stakeholders with diverse backgrounds, and what's up in SDGp. It is our hope that our articles will spark conversations, inspire nature lovers, researchers, and excited geoparkians, and provide insights into the Sarawak Delta Geopark.

Our team of writers and editors has worked tirelessly to bring you the best possible content, and we hope that you find it informative and engaging. We are always looking for ways to improve, so please do not hesitate to share your feedback with us.

So, without further ado, I invite you to delve into the pages of our publication and join us on a journey of discovery. Sit back, relax, and let our Geotalk Bulletin transport you to some of the most awe-inspiring and stunning destinations on the planet. Thank you for your continued support, and we hope you enjoy reading our latest edition.

Happy reading!

Madeline George Pau
Editor-in-Chief



“It is our hope that our articles will spark conversations, inspire nature lovers, researchers, and excited geoparkians, and provide insights into the Sarawak Delta Geopark.”

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SARAWAK DELTA GEOPARK EXPEDITION

The Sarawak Delta Geopark (SDGp) has hosted a seven-day expedition themed “Unearth the natural, cultural, and heritage treasures” to gather more information about the geopark’s geological, biological, and local cultural heritage, particularly in the Bau District and Padawan Sub-district. This expedition was the first since SDGp was recognized as the sixth National Geopark in Malaysia

The Scientific Conservation and Heritage Working Group organized the expedition as part of their research and development program, intending to utilize the knowledge and information gathered to build a more comprehensive and engaging story about the geopark for education and research purposes.

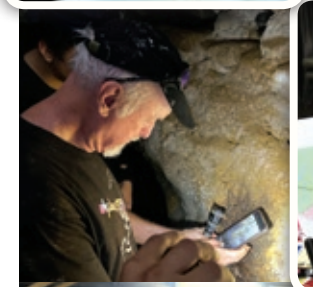
The expedition, held from March 20 to 26, 2023, aimed to promote the SDGp to researchers, tourism practitioners, and the local community. It was part of the



Scientific Conservation and Heritage Working Group’s efforts to prepare SDGp nomination for the UNESCO Global Geopark Network.

The Sarawak Delta Geopark (SDGp) expedition included the following activities:

1. Documenting geological, biological, heritage, and cultural values in the SDGp area;
2. Identifying geotourism potential and socio-economic information of the people involved, especially in the areas of Bau and Padawan;
3. Promoting the geopark to researchers, tourism operators and local communities;
4. Collecting and consolidating information from various agencies and stakeholders, ranging from biological to cultural heritage.





On 14 until 20 June 2023, a delegation from Sarawak, led by YB Datuk Amar Haji Awang Tengah bin Ali Hasan, embarked on a benchmarking trip to Jeju Island UNESCO Global Geopark (UGGp) in pursuit of knowledge and their mission has learned about the geopark management and community engagement strategies. This article documented their enriching benchmarking visit and the valuable lessons learned from one of the successful UNESCO Global Geoparks.

YB Datuk Amar, in his opening remarks, expressed admiration for Jeju Island's prestigious "Triple Crown" status bestowed by UNESCO. The island's accolades as a Biosphere Reserve, World Natural Heritage site, and

Global Geopark for its environmental significance and socio-economic impact. With Sarawak aspiring to emulate such success, the call for collaboration through a sisterhood geopark concept resonated deeply.



The Director of Biosphere Geopark Research Division extended a warm welcome to the Sarawak delegation, acknowledging the opportunity for collaboration and knowledge exchange between the two geoparks. This spirit of partnership laid the foundation for a fruitful benchmarking experience.

Exploring Geopark Treasures:

The briefing on SDGp illuminated its unique heritage featuring, 27 geosites of international, national, and local importance. Notably, the Kuching Wetland National Park's recognition as Sarawak's first RAMSAR site underscored the region's commitment to environmental conservation.



Journey to Geopark Excellence:

The Manager of Jeju Island UGGp provided insights into their journey towards UNESCO Global Geopark status. From engagement with the Global Geoparks Network to the protection of iconic sites like Mount Hallasan and Manjanggul Lava Tube, their commitment to sustainable development and public awareness was evident.



“The benchmarking visit to Jeju Island UGGp served as a beacon of inspiration for Sarawak Delta Geopark aspirations. From the exchange of ideas to the exploration of geosites, the journey exemplified the collaboration and shared learning in safeguarding our planet's natural and cultural heritage”



Immersive Experience: Learning

The benchmarking visit unfolded with visits to various geosites, each offering a glimpse into Jeju Island's geopark management practices. From the Manjanggul Lava Tube to the Seongsan Sunrise Peak, delegates witnessed first-hand the infrastructure, community involvement, and tourism initiatives driving Jeju's geopark success.



Lessons Learned:

Through interactive engagements with local geo-commentators and immersive experiences at geosites, the Sarawak delegation gained invaluable insights. Key takeaways included the importance of stakeholder collaboration, sustainable tourism practices, and community empowerment in geopark management.

As the benchmarking visit ended, the bonds forged between SDGp and Jeju Island UGp laid the groundwork for future collaborations. Armed with newfound knowledge and inspiration, Sarawak's journey towards geopark excellence had taken a significant leap forward.

The benchmarking visit to Jeju Island UGp served as a beacon of inspiration for Sarawak Delta Geopark aspirations. From the exchange of ideas to the exploration of geosites, the journey exemplified the collaboration and shared learning in safeguarding our planet's natural and cultural heritage. As SDGp charts its course towards UNESCO recognition, the lessons gleaned from Jeju Island will continue to illuminate its path forward.



INVENTORY OF CAVES IN THE VICINITY OF THE SARAWAK DELTA GEOPARK

The following is a partial list of caves documented in the general region of SDGp. Any such list will be incomplete or subject to error for several reasons: There are approximately 101 named caves and 264 cave entrances identified in West Sarawak by G.E. Wilford in "The Geology of Sarawak and Sabah Caves" (1966).

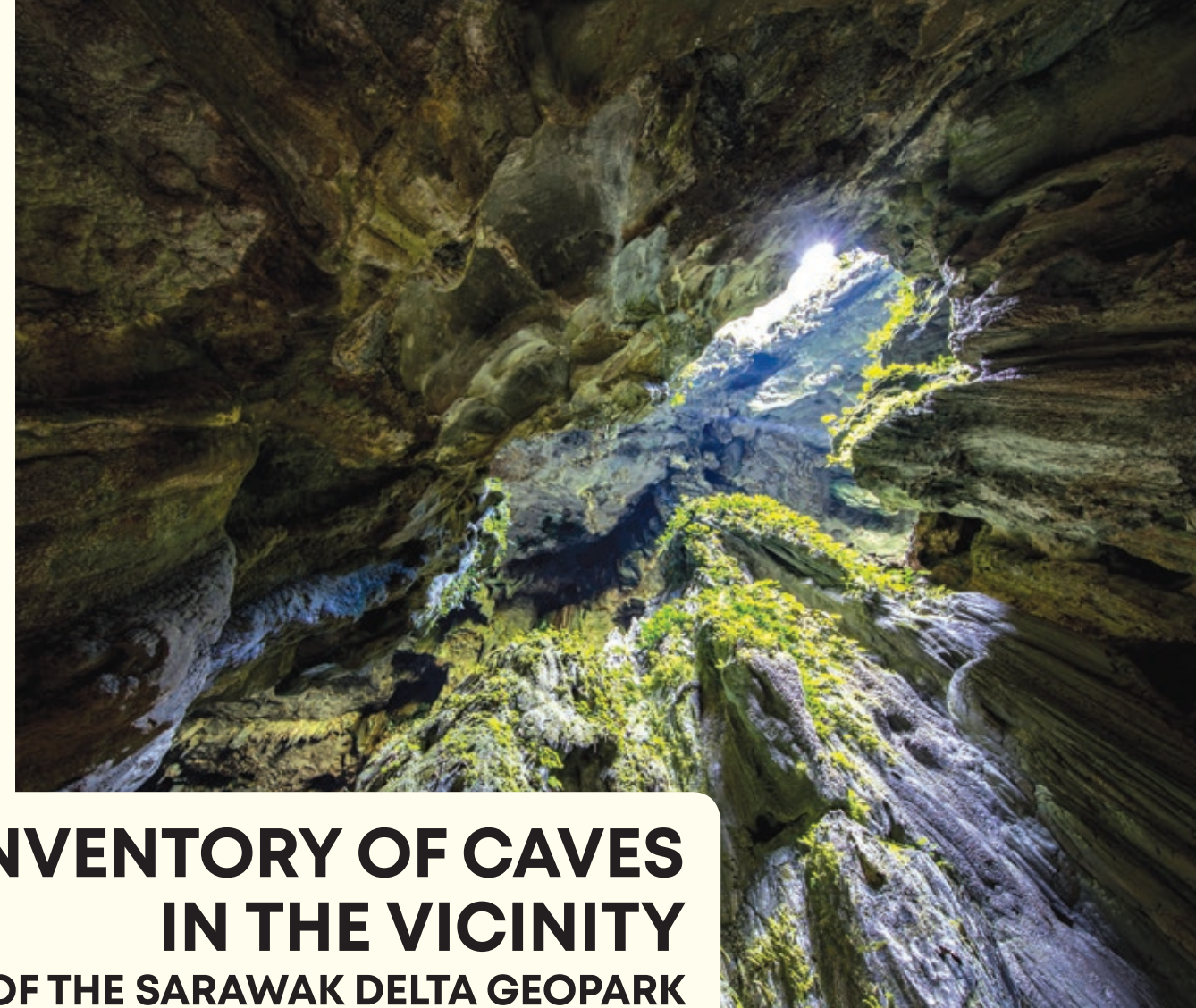
An estimate of perhaps 50 percent higher than those figures (i.e. 150/400) seems likely based upon caves that Wilford did not record, but since reported.

Any such inventory being comprehensive is constrained for the following reasons:

- a) the boundaries of the park are not yet settled upon, with many of the caves existing on private or Native Reserved land;
- b) some shallow caves, mining passages or rock-shelters may be excluded;

- c) multiple entrances of the same cavern complex may initially be considered as representing distinct caves and only linked together as passages are fully explored;
- d) additional caves may be discovered, such as at locations of dolines (locations in limestone karst areas where streams disappear into boulder rubble) or resurgences (where streams reemerge from a hillside or cliff).
- e) Caves may also disappear at times due to extensive quarrying or hillside collapses concealing a former entrance.

The location of the caves or cave complexes are listed as three zones. The Bau Area incorporates caves in the watershed of the Sarawak Kanan tributary of the Sarawak River. The Padawan Area includes caves in the watershed of the Sarawak Kiri and its tributaries from Batu Kitang to Gunung Penrissen.



Exploring the Natural Wonders Beneath our Feet

Bau Area

Cave Name	Location
• Kua Cave • Gunung Tiong Caves	Near Kg. Gumbang
• Gunung Butoh Cave • Gunung Danau Caves (4 caves; 1.5 miles from Kg. Duyoh)	Kg. Duyoh/Kg. Padang/Pan/Kg. Bagong
Gunung Magam Caves (1.5 miles SSE from Kg. Duyoh)	
1. Lobang Gunong 2. Segoga Lesak 3. Gua Spiteh 4. Gua Magam 5. Gua Makad 6. Gua Bijid g. 7. Gua Batu Landong h. 8. Gua Grayan	
Podam Caves (1 miles east Kg. Duyoh) a. Tulang Cave b. Bogag Cave	
• Gunung Buda Caves (GunungNgian) • Sedanog Buduh Cave • Seby Cave • Unnamed Cave (N. Side Gunong Ngian)	Near Krokong
• Fairy Cave = Gua Gunung Kapor • Several Caves on S. Side Gunung Kapor -water level, @ 15-20 meters above base) • Large River Cave in SE Gunong Kapor at watertable level • Bungoh Cave (East side G. Kapor-entrance 140 feet altitude @ 500 m. N. of Bidi)) • Umbut Cave (opp. G. Bungoh -on West side Gunning Api 10 meters @ 500 m. N. of Bidi) • Sleeping Beauty Cave (500 m. east of Kg. Bidi) • Rumoh Gold Moon (NNE Gunong Tabai)	Near Kg. Bidi

Cave Name		Location
• TaiTon Mine (opp. Mining Lake) • Apin Cave		Near Tai Ton
• Maraja Cave (2 miles East of Bidi) • Gua Kawa • Gua Hijo		Gunung Kawa, Dered Krian National Park
• Gua Hantu (Bukit Young Cave) • Jahara Cave • Small water cave Sg. Jahara • Lobang anging (Wind Cave)		Caves S. of Bau
• Gua Seboyu • Gua Bramu • Gua Berien		Kg. Seromah Caves (south Side Dered Krian NP)
• Gua Pang • Gua Pitas • Tupak Cave • Gua Tingang • Gua Niang • Gua Doya • Sebuang Cave • Lanyang Cave • Matik Cave	• Gua Riak • Sitak Cave • Gua Jawang • Gua Marasew Cave • Loban Prosih (Merembbeh) • Merembbeh Cave	Kg. Jambusan / Merembbeh Caves
• Gua Sirobeing • Gua Buan • Gua Sigotis • Gua Sigotis Bas • Gua Kojit • Gua Situ	• Gua Bak Ayung • Gua Kobu • Gua Rubong Tong • Gua Kiap	Kg. Gunong Pangga Caves (B/W Buso - Paku)
• Tep Cave • Conjoining Cave • Windy Sibi Cave • Gua Biawa		Bukit Skunyit (1 mile of Batu Kitang)

Exploring the Natural Wonders Beneath our Feet

Cave Name		Location
• Tubis Cave • Gua Stulang • Gua Mambang • Gua Geradi	• Gua Tebang • Gua Magee • Gua Skijang • Gua Tubis	Gunong Staat Caves
• Gua Ngiru		Gunong Siden near Kg. Git
• Tang Raya • Tang Toka • Gua Saya		Caves near Kg. Mamboing / Kg. Sikog
• Gua Chahaya • Gua Peraba		Caves in Gunong Rumbang
• Agu Cave • Nafir Cave • Gua Mebang • Gua Bulan • Gua Machan (opp. side Sungai Sarawak Kiri)		Caves in Gunong Kom
• Gua Raya • Gua Gigit (east side Sungai Sarawak Kiri)		Caves in Gunong Sebayat
• Gua Rumbang • Gua Rumbang Ulu • Gua Payang • Gua Enchok • Gua Statok	• Gua Braang Wah • Danu Small Caves • Akud Cave (nr. Beratok) • Benggoh Quarry Cave	Caves near Gunong Rumbong (near Kg. Bengoh)
• Gua Pmut • Hidden Valley Cave • Gua Ramus		Caves near Temurong

Batuh Tipire, The Living Proof of Ancient Volcano

By : Jabatan Mineral Dan Geosains Malaysia, Sarawak (JMG SWK)
Mohamad Ashreen Ashraff Zulkapli / John Joseph Jinap / Edward Muol/ Dr Dana Badang

Ba Batuh Tipire or split rock is located on a hillside in Kampung Quop, Kuching, Sarawak. This bidayuh village is located about 20 km south of Kuching City. The rock is a block of volcanic rock measured about 5.2m wide 7.7m long 5.2m high forming an interesting landscape and becoming a landmark for the local community. It has a huge split or crack in the north-south direction with different opening sizes of about 12cm at the bottom and 40-45cm at the top. The fresh surface of the rock is blueish dark in colour, highly jointed and shows many slickenside structures.

Batuh Tipire is a proof that once upon a time, there was a volcanic activity in Sarawak that formed this volcanic rock. This volcanic rock is part of the Serian Volcanics and the volcanoes that formed this rock were erupted around



Late Triassic (220 million years ago). The volcanic eruptions and subsequent formation of lavas occur during the Late Triassic - Cretaceous subduction of the oceanic crust, forming an island arc in the vicinity of the shallow sea along the Western Borneo Continental margin. The Serian Volcanics consist of andesite,

dacite, basalt, dolerite and its tuff/ volcanic ash equivalent. The rocks of Serian Volcanics are widely distributed or overlain in the Serian District and parts of the Bau and Kuching district with its reference locality is in Bukit Semuja, Serian. In Sarawak Delta Geopark (SDGp) area, the volcanic rocks are exposed in Batu Kitang, Jalan Stephen Yong and around Padawan.

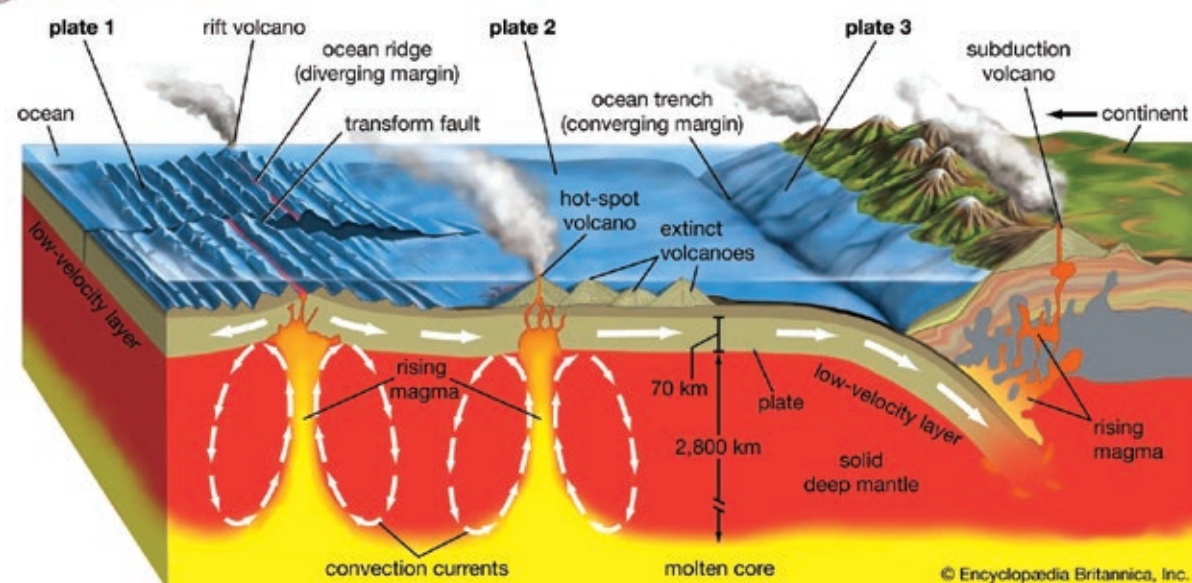
“This volcanic rock is part of the Serian Volcanics and the volcanoes that formed this rock were erupted around Late Triassic (220 million years ago)”

There is a myth or old belief about this block of volcanic rock as told by the old folks in the Kampung Quop. As the story goes, the rock was discovered by Bai Rimau who took shelter under it from “hujan panas” while got lost in the forest. Then

one night after finding his way home, he dreamed the guardian of Batuh Tipire told him to make a settlement in that area. The following month, two disasters struck the Bukit Quop settlement, the cholera & smallpox epidemics. Sensing this as a bad omen,

Bai Rimau led his followers to move to the Batuh Tipire area. Since then, those who have animistic beliefs have performed rituals for the guardian spirits of this Batuh Tipire.

Batuh Tipire is located within “Batuan Volcano Bukit Quop” geosite which is one of the geosites under the Sarawak Delta Geopark (SDGp). Batuh Tipire is significant to education and research as these features are the evidences of the geological process that occurred million years ago. This geosite is also of aesthetic and cultural value that are visually appealing because of their geologic features or processes can be tourist destinations and provide local and regional economic benefits.



Schematic Diagram of the Volcanism and Plate Tectonics (Source: Britannica)



“The Old World gekkonid genus *Cnemaspis* Strauch 1887 currently comprise 229 recognized species with eight species described in Sarawak, Malaysia. Within the boundary of Sarawak Delta Geopark, three of eight species can be found occurring on the limestone formations”

KARST FORMATIONS

of Western Sarawak and Their Bountiful Biodiversity

Animal distribution is governed by a variety of factors, including the geological history of the region, its ecological characteristics, the phylogenetic relationship of the organisms, as well as corridors that exist for biotic exchange. The complex dynamics between these factors determines the placement of fauna and flora we see today. The Sarawak Delta Geopark, measuring 3112km², is located on the western portion of Sarawak, and is a fragment of a lengthy and complex landscape, with a unique geological history. Within the Geopark area are limestone regions or karst which were formed millions of years ago. A 2021 report on the conservation of limestone ecosystem of Malaysia recorded the total area of outcrops base in Sarawak as 278.36km² in extent and scattered from west to east.

Regarded as biodiversity arks or reservoirs, karst landscapes are capable of resupplying degraded environments during ecosystem reassembly (Schilthuizen, 2004). The complex terrains and variable climatic conditions provide ideal condition for multitude of specialised species such as bats (Mohd Ridwan et al, 2011), begonias (Kiew, 1991), birds (Yong

et al, 2004), invertebrates (Juberthie and Decu, 2001), *Nepenthes* (Lee, 2004), orchids (Rusea et al, 2009), snails and slugs (Marzuki et al, 2021) and many others. Organisms residing within karst landscapes require to adapt to cope with the unique conditions presented by limestone, thus giving rise to high endemism in the area. Karst-adapted species and products are commercially valuable and sought after. Apart from rare plant species, products such as swiftlets' nests and guano are also economically valuable. The topology of limestone itself have significant value to human history. Caves were used as shelter since ancient times, and many cave systems in Sarawak are important archaeological and paleontological sites.

Geckos are lizards of the clade Gekkota with 2,265 recognized species, constituting 31% of the 7,310 currently recognized lizard species (Uetz, 2023). They occur in warm regions throughout the world. The Old World gekkonid genus *Cnemaspis* Strauch 1887 currently comprise 229 recognized species with eight species described in Sarawak, Malaysia. Within the boundary of Sarawak Delta Geopark, three of eight species can be found occurring on the limestone

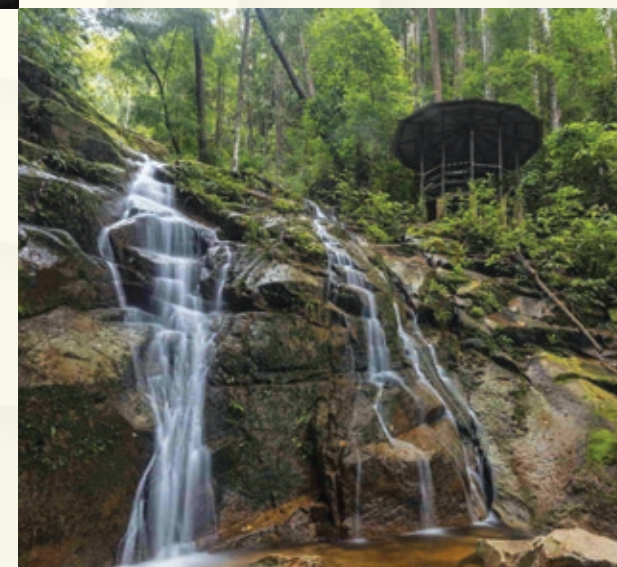
formations. These include *Cnemaspis kendallii* (Gray, 1845), considered as the most generalized species, being observed on multiple substrates and showing overlapping distribution; *Cnemaspis matahari* Nashriq, Davis, Bauer & Das, 2022, recorded in the Jambusan-Semadang, Siburan and Serian-Tebedu limestone hills and *Cnemaspis paripari* Grismer & Onn 2009, found in the limestone region of Bau District. Apart from *C. kendallii*, both *C. matahari* and *C. paripari* are restricted to limestone substrates where they live communally. They are also syntopic with another gecko genus, *Cyrtodactylus*, though the ecological dynamic is not yet understood, resource partitioning between the two genera may exist, although the *Cyrtodactylus* geckos are larger in size compared to *Cnemaspis*.

Geckos are one of the vital components in ecosystem maintenance. In prey-predator relationship, they are food item for predators such as snakes, birds and even squirrels, while as predator, they feed on insects, thus help control the growth of the populations of insect pests. Aside from ecological components, geckos have significant influence on humans, as depicted in many ancient tales and cultural beliefs. Geckos also inspire biotechnology

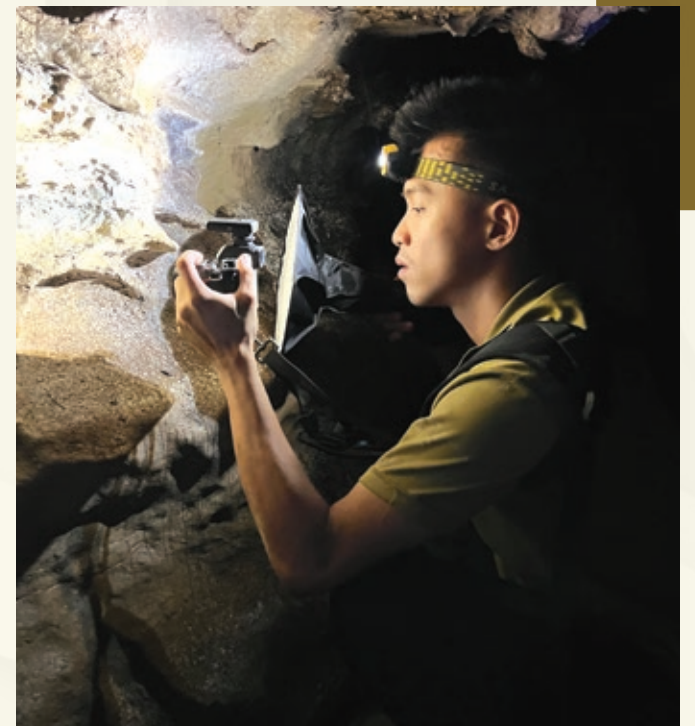


Cnemaspis matahari by Indraneil Das

By: Izneil Nashriq, UNIMAS



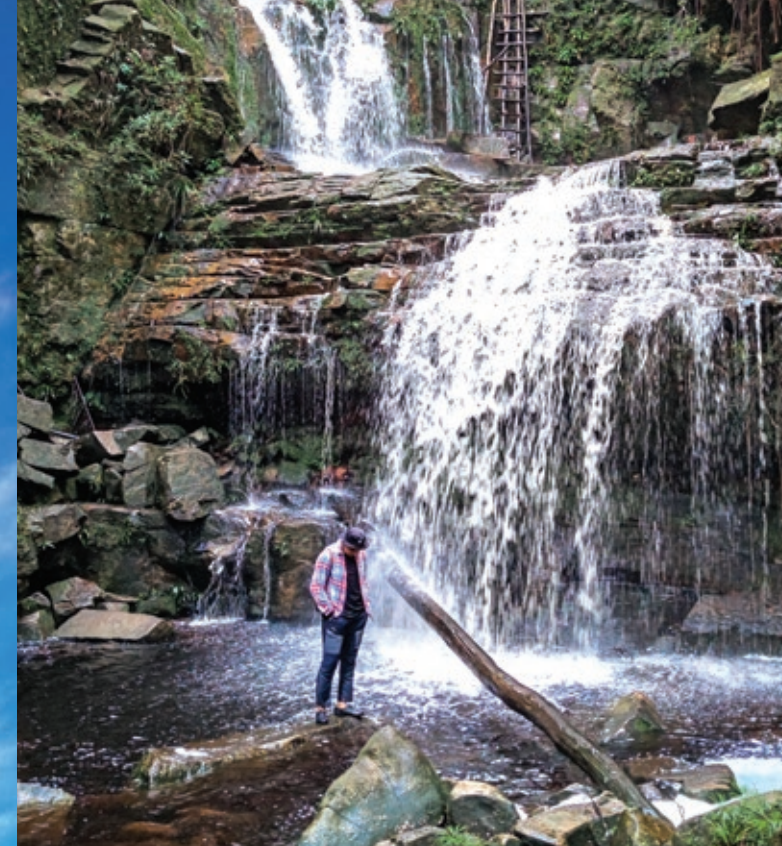
such as gecko-inspired adhesive and self-drying surfaces. Not only the geckos, but in wider perspectives, the abiotic and the biotic component found in the karst area are important for research and future discoveries, making it crucial to conserve and preserve such area. It is not surprising that karst areas are facing anthropogenic threats. Limestone and basement minerals are susceptible from small to large-scale mining, land clearing for development and unsustainable collection of biotas for medicinal and ornamental value which will result in the degradation and extinction of local populations if not mitigated.



Serenity Summit

• Bukit Batu Selabat

By: Ismail Roslan



Sunrise Serenity atop Selabat

Witnessing the sunrise, with the sun's first rays illuminating the landscape, is a sight to behold. Even if you don't make it to the peak, soaking in the dawn ambiance is still worthwhile. For those intent on catching the sunrise, I suggest starting the ascent no later than 5:15 AM. Climbing in the darkness may slow the pace slightly, but stopping for Subuh prayers along the trail adds to the experience. If you're fortunate, you might witness a serene carpet of morning clouds.

Like any outdoor experience, catching the sunrise and sunset depends greatly on weather conditions and the surrounding environment. For those keen on both, camping at the third peak offers ample space and breathtaking views. You could even host a wedding ceremony there!

There's much more to share about Bukit Batu Selabat, including the intriguing "Puncak Beruk," or Monkey Peak, which resembles a primate's face when viewed from the first peak - a detail often overlooked until pointed out. Also, for those planning a day hike, consider extending your journey to the renowned Arong Serait waterfall. But I digress; I wouldn't want to bore you with lengthy tales. That's all from my personal perspective, drawn from experience and observation. Keep supporting local tourism initiatives, and may your adventures be as enriching as mine.



Behold Bukit Batu Selabat, nestled in the Embrace of Muara Tebas, just a breezy 20-minute drive from the bustling heart of Kuching. This hill, though not towering, boasts a trail that caters to all, from leisurely strolls to the more adventurous sections where ropes come into play as you near the summit, offering a panoramic 360-degree vista that captivates in every direction. Spanning approximately 1.2 kilometers, the ascent here is relatively brief, taking anywhere from 30 minutes (for the brisk-paced) to 60-90 minutes (for those savoring each step). Allow me to share personal reflections and insights:

Jaw-dropping Photo Opportunities

Many are acquainted with Bukit Batu Selabat for its vertigo-inducing photo spots, where daring angles against the cliff's edge elicit a rush of adrenaline. Indeed, the wide expanse of rock and some camera wizardry contribute to these extreme shots. Yet, safety remains paramount. There are no barriers to the thrill, only the necessity for cautious steps and mindful actions.

Sunset Splendor at Selabat

For a memorable experience, consider witnessing the sunset from this elevated vantage point. Watch in awe as the sun dips behind the distant mountains, casting its golden glow across the horizon. Even without reaching the peak, the view remains spectacular, though it's not vastly different from enjoying the sunset along the waterfront. Nevertheless, experiencing the sunset from Bukit Batu Selabat adds a unique touch. I recommend lingering a while to admire the twinkling lights of Kuching below. Plus, there's a flat area up top perfect for Maghrib prayers.

Importance

of Sarawak Delta Geopark

The geopark also plays significant roles in contributing towards the state and national revenue which can be generated from the entrance fees and tourists who visited the areas. This also indirectly can improve the local economy and deserving crafting better infrastructure and amenities to the local community. Besides, the geopark create the opportunities to the local people who lives surrounding it by offering the new jobs in term of geotourism related as the operation of geopark should be closely inter-wined and integrated with the goals of conservation and sustainable socio-economic development.

On the other hand, the link between the geology and the human experience of the land in the area is explored through geotourism in a number of ways. Geotourism unifies and intrinsically marries tourism and geodiversity together with a strong focus on incorporating protection and sustainability. Last but not least, it was well known that the geopark articulated the land use planning concept connote to the physical planning and the implementation of sustainable uses of the land which providing the guidance and strategies aimed to minimize and manage the geological environment that underpins the ecosystem and landscapes within the geopark areas.

The geological attributes of the geopark provide a foundation for understanding and guiding development and promotion of the geopark as a place for people to value and enjoy, reconcile and sustain the quality of natural environments and landscapes with the broader strategies for growth, and regeneration of the local spaces.

All in all, as the one and only geopark in Sarawak and the 6th National geopark in Malaysia, the recognition of Sarawak Delta has successfully put our state onto the world geotourism map and attract international tourists to visit, to learn and to enjoy the beauty of the natural creation.



Exploring The Heights!

An unforgettable trek to Susung Waterfall, Bengoh with the Deputy Minister as part of the Sarawak Delta Geopark Expedition



Heritage, Culture, History and Socio-economic Workshop for the Communities of Kuching, Bau and Padawan.

Date	Location
21 - 22 March 2023	Dewan Suarah Bau
28 - 30 August 2023	Dewan Masyarakat Padawan
5 - 7 September 2023	Waterfront Hotel, Kuching





Presentation for UNESCO Global Geopark Nomination at Ministry of Energy and Natural Resources (KeTSA)
9 November 2023



The engagement session for the development project of Bau Karst geosites in Sarawak for geotourism products at Dewan Suarah Bau,
22 June 2023



Presentation and B2B seller for engagement session with Sarawak Tourism Industry Player at Majestic Riverside Putri Wing Hotel, Kuching,
13 April 2024



The Sarawak Delta Geopark and Gawai 2024 Tourism Package Development Workshop, 16-19 October 2023



Participation in the 10th International Conference on UNESCO Global Geoparks in Morocco on 5-10 September 2023





Theory and Practical Drone Operation Course for the Sarawak Delta Geopark Project
on 8 May 2023



Field Monitoring of Geosites within the Sarawak Delta Geopark,
11-15 September 2023



Inter-agency workshop on Sarawak Delta Geopark with expert group
on 3- 4 October 2023



Eco-host course for Geoguides for licensing purposes under the Ministry of Tourism, Arts, and Culture for Sarawak Delta Geopark Cohort 1
on 29 October 2023



Aspiring Sarawak Delta UNESCO Global Geopark Retreat

on 7-8 December 2023



Aspiring Sarawak Delta UNESCO Global Geopark Retreat Dinner

on 7-8 December 2023



