



DR. CHARLES M. FRANCIS

BATS OF SABAH



Dr. Charles M. Francis co-authored the book *Mammals of Borneo* with John Payne in 1985. Dr. Charles Francis is a renowned authority on Bornean bats. He has described countless new species and made significant contributions to Borneo bat research. In November 2022, he visited Tawau Hills Park and taught a bat identification and photography class to the Sabah Parks education and research department.

Sabah, Malaysia, renowned for its rich biodiversity, recently became the focus of an exciting bat expedition led by Dr. Francis in collaboration with 1StopBorneo Wildlife. The trip explored several key locations, including Tawau Hills Park, Kinabalu Park, Teck Guan Cocoa Village, and Kinabalu Park - Sayap, uncovering fascinating insights into the region's bat diversity.

Bats of Sabah

DR. CHARLES M. FRANCIS



1StopBorneo Wildlife

In recent years, an exciting exploration of Borneo's bat species was undertaken by renowned bat expert Dr. Charles M. Francis in collaboration with 1StopBorneo Wildlife. This field trip, which spanned key wildlife-rich areas in Sabah, including Tawau Hills Park, Kinabalu Park, Teck Guan Cocoa Village, and Kinabalu Park - Sayap, aimed to further understand the diverse bat populations in these unique ecosystems and capture photographs that could be used for education and outreach.

The team explored the biodiverse habitats in these regions, capturing valuable observations and photographs of the various species of bats that thrive in these areas. These observations will not only contribute to further understanding of Borneo's bat biodiversity but also support ongoing conservation efforts to protect these vital nocturnal creatures and their habitats.





Bat Workshop

Dr. Charles M. Francis conducted specialized bat workshops with 1StopBorneo Wildlife at four key locations in Sabah:

- Kinabalu Park & Poring (4th-9th February 2024)
- Tawau Hills Park (18th-21st February 2024)
- Teck Guan Cocoa Village
- Kinabalu Park Sayap

During these sessions, Dr. Francis shared his extensive knowledge of bat ecology and demonstrated field survey techniques, including the setup of a professional "bat studio" for photographing bats in flight. These hands-on workshops enhanced local capacity for bat conservation while gathering high quality photographs of Sabah's diverse bat species.





Bat Studio



Examining on a captured bat



Setting up bat studio



Checking on a captured bat



Preparing a Harp Trap



Demonstrating a Harp Trap

P.S.: Special permissions were applied to conduct this workshop. Bat handling shouldn't be done by public or normal tourists without special permission.



Invitation to a Bat Workshop



Tawau Hills Park

Nestled in the southeastern corner of Sabah, Tawau Hills Park boasts lush lowland forests that serve as an ideal habitat for various bat species. The park revealed a diverse array of frugivorous and insectivorous bats during the survey, highlighting its ecological importance.



Balionycteris maculata



Emballonura alecto



Hipposideros dyacorum



Hipposideros galeritus



Hipposideros ater saevus



Hipposideros cervinus



Hipposideros ridleyi



Kerivoula intermedia



Kerivoula hardwickii



Kerivoula minuta



Kerivoula papillosa



Kerivoula pellucida



Rhinolophus creaghi



Rhinolophus trifolius



Rhinolophus borneensis



Rhinolophus sedulus

Tawau Hills Park

Kinabalu Park

Kinabalu Park's dramatic elevation changes create unique microhabitats that support distinct bat communities. The park's montane forests and transitional zones harbor specialized species adapted to cooler highland conditions.



Poring

Located at the foothills of Mount Kinabalu, Poring Hot Springs is renowned for its hot springs and herpetofauna biodiversity. The area's rainforests and caves are home to diverse wildlife, particularly bat species, making it an important site for eco-tourism and bat research.



Glischropus tylopus



Hipposideros cervinus



Hipposideros dyacorum



Hipposideros ridleyi



Kerivoula hardwickii



Tylonycteris robustula

Teck Guan Cocoa Village



Cynopterus minutus



Myotis ridleyi



Rhinolophus acuminatus

Located in the fertile Tawau region, this working plantation demonstrates how agricultural landscapes can coexist with bat populations. The area's mix of cocoa trees and remnant forest patches provides valuable foraging grounds, particularly for fruit bats that contribute to pollination.

Kinabalu Park - Sayap

Located on the western slopes of Mount Kinabalu, the Sayap Substation provides access to diverse habitats, making it an excellent area for surveying local bat species and their behavior. The substation plays a crucial role in supporting conservation efforts in this ecologically rich area.



Aethalops aequalis



Cynopterus minutus



Cynopterus brachyotis



Cynopterus horsfieldii



Eonycteris major



Eonycteris spelaea



Hipposideros cervinus



Macroglossus minimus



Rhinolophus borneensis



Megaerops ecaudatus



Rhinolophus trifolius



Penthetor lucasii



Check List of Bats Photographed in Sabah

No.	Common Name	Scientific Name	Tawau Hills Park	Kinabalu Park	Poring	Teck Guan Cocoa Village	Kinabalu Park Sayap
1	Pygmy Fruit Bat	Aethalops aequalis		/			/
2	Spotted-winged Fruit Bat	Balionycteris maculata	/				
3	Lesser Short-nosed Fruit Bat	Cynopterus brachyotis	/				/
4	Horsfield's Fruit Bat	Cynopterus horsfieldii					/
5	Minute Fruit Bat	Cynopterus minutus				/	/
6	Small Asian Sheath-tailed Bat	Emballonura alecto	/				
7	Greater dawn Bat	Eonycteris major					/
8	Cave Dawn Bat	Eonycteris spelaea					/
9	Common Thick-thumbed Bat	Glischropus tylopus			/		
10	Dusky Roundleaf Bat	Hipposideros ater saevus	/				

11	Fawn Roundleaf Bat	<i>Hipposideros cervinus</i>	/		/		/
12	Diadem Roundleaf Bat	<i>Hipposideros diadema</i>	/				
13	Doria’s Leaf-nosed Bat	<i>Hipposideros doriae</i>	/				
14	Dayak Roundleaf Bat	<i>Hipposideros dyacorum</i>	/		/		
15	Cantor’s Roundleaf Bat	<i>Hipposideros galeritus</i>	/				
16	Kingston’s Roundleaf Bat	<i>Hipposideros kingstonae</i>		/			
17	Ridley’s Roundleaf Bat	<i>Hipposideros ridleyi</i>	/		/		
18	Hardwickii’s Wolly Bat	<i>Kerivoula hardwickii</i>	/		/		
19	Small Woolly Bat	<i>Kerivoula intermedia</i>	/				
20	Least Wolly Bat	<i>Kerivoula minuta</i>	/				
21	Papillose Woolly Bat	<i>Kerivoula papillosa</i>	/				
22	Clear-winged Woolly Bat	<i>Kerivoula pellucida</i>	/				
23	Long-tongued Nectar Bat	<i>Macroglossu minimus</i>	/				/
24	Temmiinck’s Tailless Fruit Bat	<i>Megaerops ecaudatus</i>	/	/			/
25	Black Myotis	<i>Myotis ater</i>	/				
26	Nepalese Whiskered Myotis	<i>Myotis muricola</i>	/	/			
27	Ridley’s Myotis	<i>Myotis ridleyi</i>	/			/	

28	Malayan Slit-faced Bat	Nycteris tragata	/				
29	Dusky Fruit Bat	Penthetor lucasii					/
30	Large Flying Fox	Pteropus vampyrus	/				
31	Accuminate Horseshoe Bat	Rhinolophus acuminatus	/	/		/	
32	Intermediate Horseshoe Bat	Rhinolophus affinis	/				
33	Bornean Horseshoe Bat	Rhinolophus borneensis	/				/
34	Creagh's Horseshoe Bat	Rhinolophus creaghi	/				
35	Greater Woolly Horseshoe Bat	Rhinolophus luctus	/	/			
36	Lesser Woolly Horseshoe	Rhinolophus sedulus	/	/			
37	Trefoil Horseshoe Bat	Rhinolophus trifoliatus	/				/
38	Greater Bamboo Bat	Tylonycteris robustula	/		/		

Conclusion

Dr. Francis's workshops have significantly advanced bat education in Sabah while documenting the diversity of these vital ecosystem engineers. The combination of hands-on training and high quality photographs provides a strong foundation for ongoing conservation efforts. A total of 38 bat species were recorded during these workshops, each playing a crucial role in maintaining the health of local ecosystems. By continuing this important work, we can ensure the protection of Sabah's remarkable bat diversity for future generations.

For affordable mammal watching expeditions, contact 1StopBorneo Wildlife.

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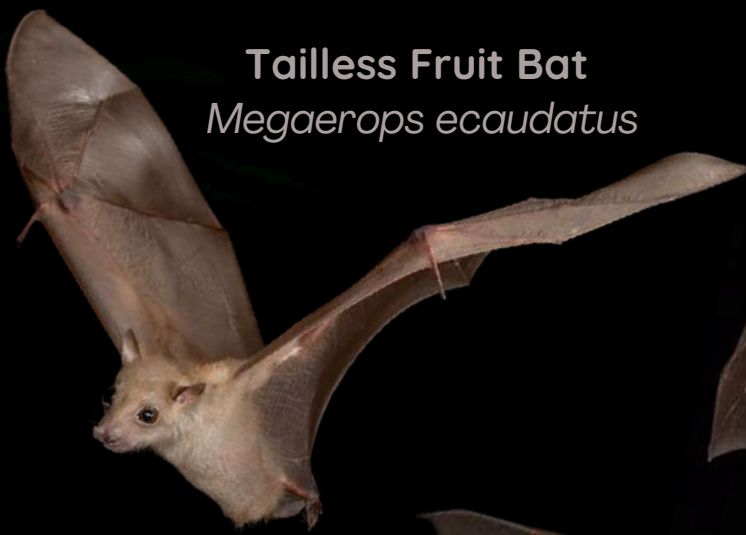


Scan the QR code to download the poster of Bats in Sabah





Lesser Short-nosed Fruit Bat
Cynopterus brachyotis



Tailless Fruit Bat
Megaerops ecaudatus



Spotted-winged Bat
Balionycteris maculata



Lesser Long-tongued Fruit Bat
Macroglossus minimus



Large Flying Fox
Pteropus vampyrus

FRUIT BATS

MP

CL



Trefoil Horseshoe Bat
Rhinolophus trifolius



Acuminate Horseshoe Bat
Rhinolophus acuminatus



Bornean Horseshoe Bat
Rhinolophus borneensis



Malayan Slit-faced Bat
Nycteris tragata

KB



Great Woolly Horseshoe Bat
Rhinolophus luctus



Intermediate Horseshoe Bat
Rhinolophus affinis



Creagh's Horseshoe Bat
Rhinolophus creaghi



Lesser Woolly Horseshoe Bat
Rhinolophus sedulous



Small Asian Sheath-tailed Bat
Emballonura alecto

HORSESHOE BATS



Clear-winged Woolly Bat
Kerivoula pellucida



Hardwicke's Woolly Bat
Kerivoula hardwickii



Small Woolly Bat
Kerivoula intermedia



Papillose Woolly Bat
Kerivoula papillosa



Least Woolly Bat
Kerivoula minuta

WOOLLY BATS



Ridley's Myotis
Myotis ridleyi



Asian Whiskered Myotis
Myotis muricola



Peter's Myotis
Myotis ater

MOUSE-EARED BATS



Fawn Leaf-nosed Bat
Hipposideros cervinus



Diadem Leaf-nosed Bat
Hipposideros diadema



Cantor's Roundleaf Bat
Hipposideros galeritus



Least Leaf-nosed Bat
Hipposideros doriae



Ridley's Roundleaf Bat
Hipposideros ridleyi



Dayak Leaf-nosed Bat
Hipposideros dyacorum

ROUNDLEAF BATS



Greater Bamboo Bat
Tylonycteris robustula

A selection of bat species present in Tawau Hills Park.

Prepared by Koen Betjes, 1StopBorneo Wildlife (2024). Photographs mainly from Dr. Charles M. Francis and other photographs are credited to Michael Pennay (MP), Carmelo Lopez (CL), and Khao Bantad (KB).



BATS OF KINABALU PARK



Borneo Fruit Bat
Aethalops aequalis



Tailless Fruit Bat
Megaerops ecaudatus



Kingstone Leaf-Nosed Bat
Hipposideros kingstonae



Acuminate Horseshoe Bat
Rhinolophus acuminatus

Ridley's Leaf-Nosed Bat
Hipposideros ridleyi



Great Woolly Horseshoe Bat
Rhinolophus luctus



Fawn Leaf-Nosed Bat
Hipposideros cervinus



Common Thick-Thumbed Bat
Glischropus tylopus



Dayak Leaf-Nosed Bat
Hipposideros dyacorum



Lesser Woolly Horseshoe Bat
Rhinolophus sedulus



Hardwicks Bat
Kerivoula hardwickii



Greater Bamboo Bat
Tylonycteris robustula



Wall-Roosting Mouse-Eared Bat
Myotis muricola

A selection of bat species
present in
Kinabalu Park

Prepared by Koen Betjes,
1StopBorneo Wildlife (2024).
All photographs from
Dr. Charles M. Francis

BATS OF SAYAP



Fawn Roundleaf Bat
Hipposideros cervinus
(insectivorous bat) **LC**



Dusky Fruit Bat
*Penthetor lucasii***
(fruit bat) **LC**



Bornean Mountain Fruit Bat
Aethalops aequalis
(fruit bat) **LC**



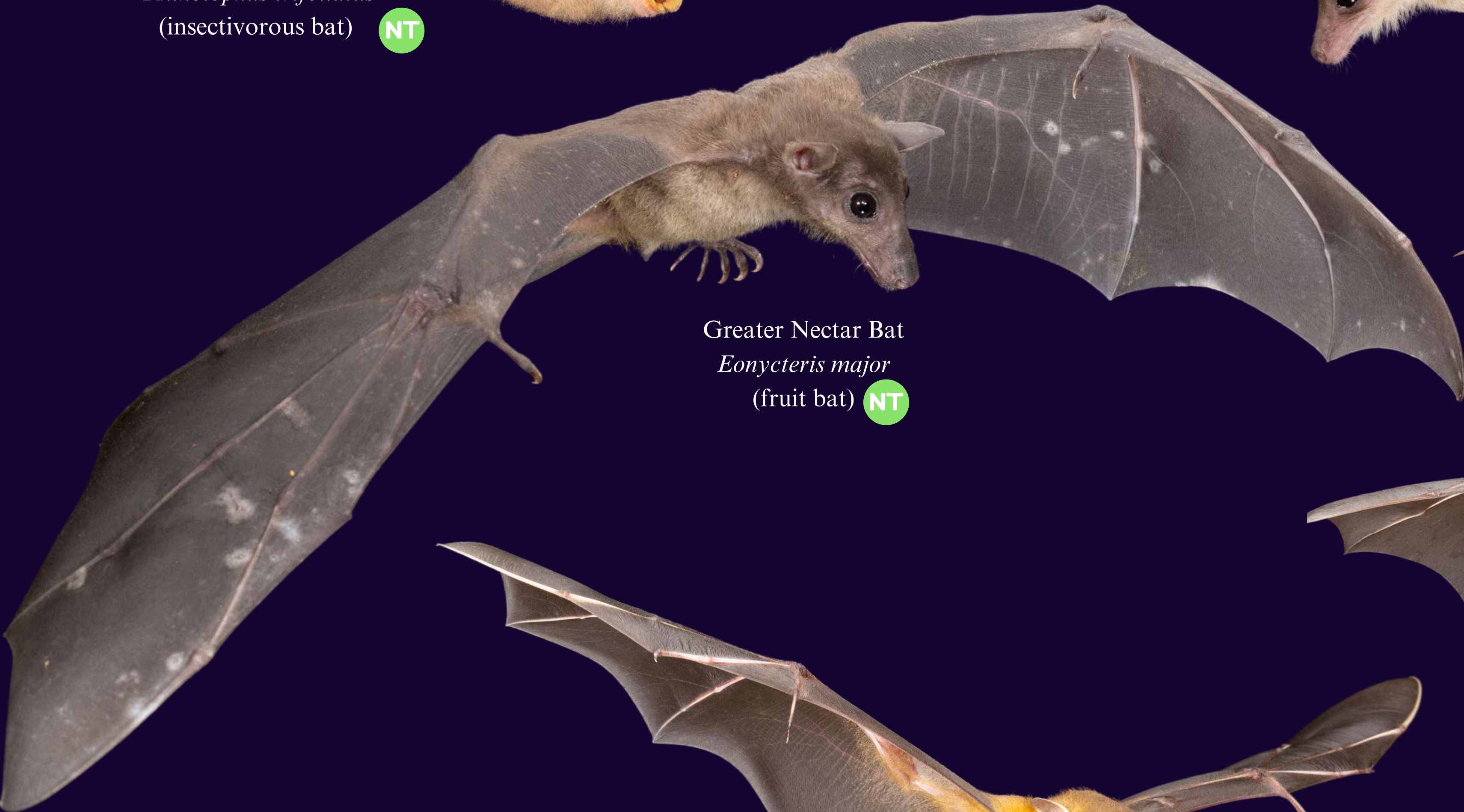
Bornean Horseshoe Bat
*Rhinolophus borneensis***
(insectivorous bat) **LC**



Trefoil Horseshoe Bat
Rhinolophus trifolius
(insectivorous bat) **NT**



Cave Nectar Bat
Eonycteris spelaea
(fruit bat) **LC**



Greater Nectar Bat
Eonycteris major
(fruit bat) **NT**



Long-tongued Nectar Bat
Macroglossus minimus
(fruit bat) **LC**



Forest Short-nosed Fruit Bat
Cynopterus minutus
(fruit bat) **LC**



Sunda Short-nosed Fruit Bat
Cynopterus brachyotis
(fruit bat) **LC**



Sunda Tailless Fruit Bat
Megaerops ecaudatus
(fruit bat) **LC**



Horsfield's Fruit Bat
Cynopterus horsfieldii
(fruit bat) **LC**

NOTE

Around Sayap, as elsewhere in Sabah, there are likely to be many more species of insectivorous bats than fruit bats. However, this poster shows mainly fruit bats, as those were the species for which photographs were available.

IUCN

- NT** Near Threatened
- LC** Least Concern
- **** = Endemic to Borneo

FUN FACT

Bats don't fall down when they are asleep because the weight of the sleeping bat causes the tendons in their legs to tighten.

PHOTO CREDITS

All photographs credit to Dr. Charles M. Francis

A selection of bat species present in Sayap.

Prepared by Kong Vui Li.
1StopBorneo Wildlife
(2025).

