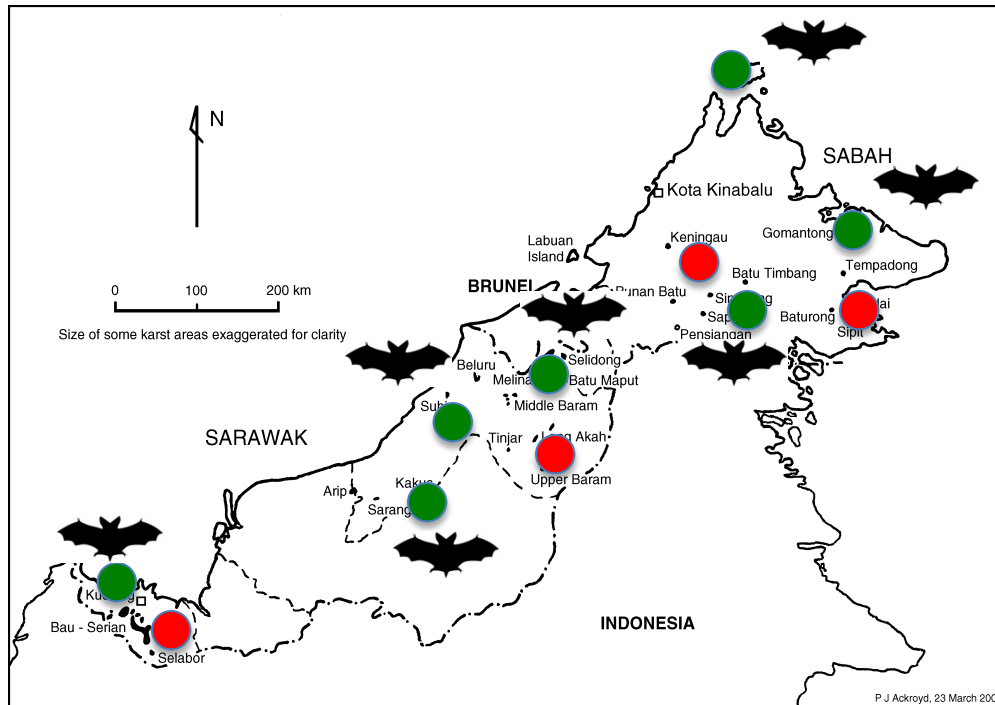







# **Cave-Dwelling Bats in Malaysia: Conservation Status, Threats & Needs**

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# 1. Karst Area: 500 km<sup>2</sup>



 Caves surveyed  
 Bats surveyed

 Priority area for  
cave bat surveys

# Karst and Caves

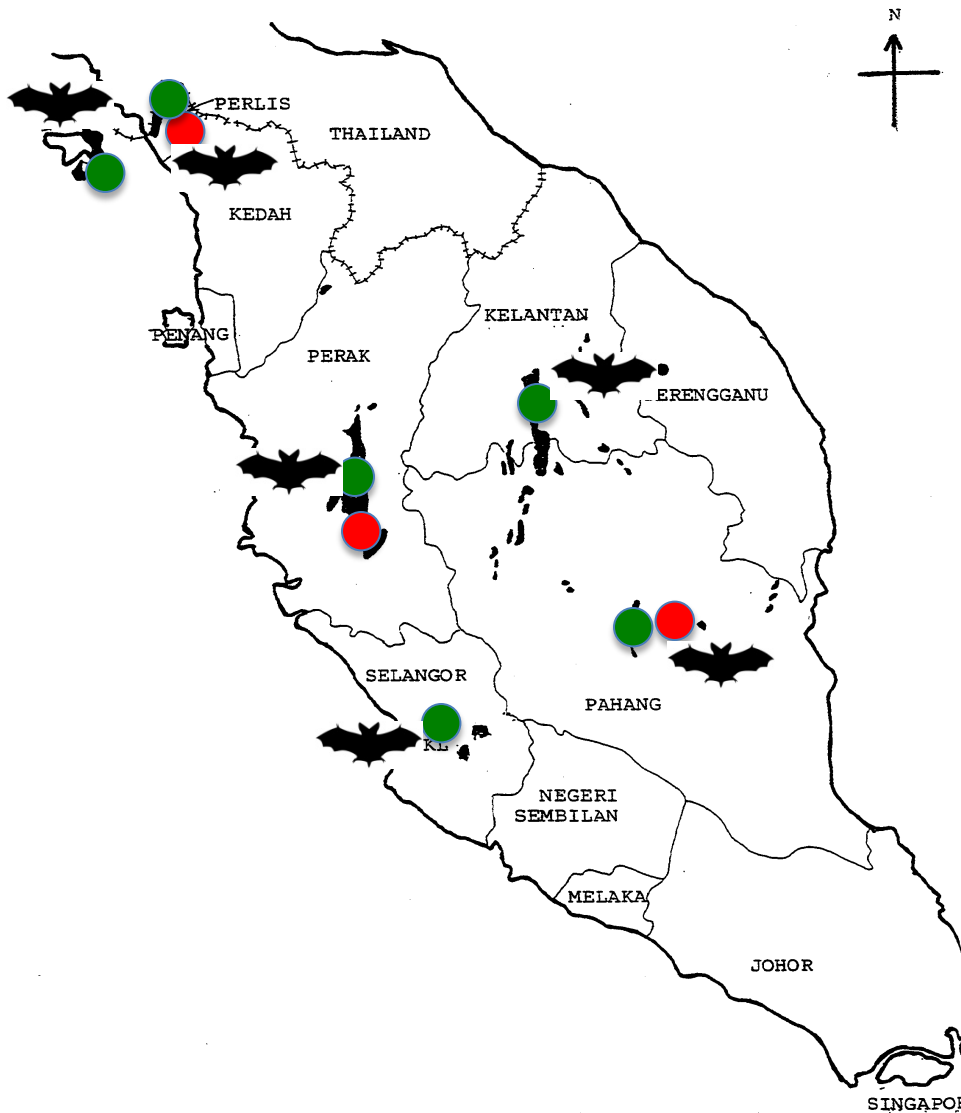
## 2. Cave Survey Areas:

- Niah, Subis SRWK
- Wind/Fairy, Bau SRWK
- Mulu WHA, Melinau SRWK
- Sarang&Kakus SRWK
- Padawan SRWK
- Gomantong SBH
- Balambangan SBH

## 3. Priority Areas for Future Cave Bat Surveys:

- Upper Baram SRWK
- Bau-Serian limestone area SRWK
- Madai SBH
- Keningau SBH

# 1. Karst Area: 260 km<sup>2</sup>



● Caves surveyed

🦇 Bats surveyed

● Priority area for

cave bat surveys

# Karst and Caves

## 2. Cave Survey Areas:

- GuaMusang KELANTAN
- GunungSenyum PAHANG
- Kota Gelanggi PAHANG
- Kinta Valley PERAK
- Dark Cave SELANGOR
- Langkawi KEDAH
- Setul&Chuping PERLIS

## 3. Priority Areas for Future

### Cave Bat Surveys:

- Setul&Chuping PERLIS
- Kinta Valley PERAK
- GuaMusang, KELANTAN
- Dabong`s cave, KELANTAN



# Malaysian Cave Bats: What we know

## 1. Major Cave Bat Colonies

- Mulu NP- *Chaerophonplicata*
- Niah Cave – Naked bats
- Gomantong Cave – mixed species
- Bau limestone areas – mixed species

## 2. Cave Bat Species Richness

- Niah Cave (42 spp, 22 spp roost in Niah cave)
- Bau limestone areas (37 sp, 14 roost in Wind-Fairy Cave)
- Mulu Cave (27 spp, 12 spp roost in cave)

## 3. Priority Cave Bat Species for Conservation

- Naked bat (*Cheiromelestorquatus*)
- Cave bat (*Eonycteris spelaea*)
- Dusky fruit bat (*Penthetor lucasi*)
- Rousette bats (*Rousettus spinalatus* & *R. amplexicaudatus*)

# Current Threats to Cave Bats

Type of Threat	Occurrence	Urgency	Importance
Guano mining & bird nest collecting	2	3	5
Monoculture plantation	2	2	4
Limestone quarry	2	2	4
Eco-tourism	2	2	4
Local delicacy	1	2	3
Removal of crystals	1	2	3

**Occurrence:** 1=Localised; 2= Widespread; 3= Nationwide.

**Urgency:** 1= Low; 2= Medium; 3= High.

**Importance:** For conservation attention

# Current or Recent Cave Bat Research

Type of Research	Location	Major Aims	Contact Person/ Institution
Ecology	Mulu, Sarawak	Species diversity of bats at Mulu	Ellen McArthur (Mulu World Heritage Area) & UNIMAS team
Ecology	GuaMusang, Kelantan	Species diversity of bats at GuaMusang	Jayaraj (UMK), NoorHalizaHasan (UMS) Faisal Ali Anwarali (TTU) MohdTajuddin Abdullah (UNIMAS)
Molecular Ecology	Niah&Wind Cave, Sarawak	Population study of <i>Penthetorlucasi</i> /Species diversity of limestone bats	MohdRidwan, Roberta &MohdTajuddin Abdullah (UNIMAS)
Ecology	Padawan , Sarawak	Species diversity of bat at Padawan limestone area (Proposed as protected area)	Isham, Roberta,MohdRidwan& Tajuddin Abdullah (UNIMAS)
Ecology	Kota Gelanggi / GunungSeny um, Pahang	Species diversity of bats at Kota Gelanggi	Prof Zubaid Akbar/UniversitiKebang saan Malaysia

# Current or Recent Cave Bat Research

Type of Research	Location	Major Aims	Contact Person/ Institution
Ecology	Langkawi	Species diversity of bats at Langkawi	Prof ShukorMd Nor / UniversitiKebangsaan Malaysia
New Methodology Approach	Perak, Langkawi, Selangor	Cave mapping and species diversity	Suzanna Azmy&Assoc Prof ShahrulAnuarMohdSah / UniversitiTeknologi Malaysia &UniversitiSains Malaysia



# Current Cave Bat Conservation Activities

Type of Activity	Location	Major Aims	Contact Person/ Institution
Survey	Mulu NP	Bat diversity	MohdIsham, Sarina, MohdRidwan & MohdTaj uddin Abdullah (UNIMAS)
Survey	Tambun Limestone	Bat diversity	MohdIsham, Sarina (UNIMAS) Jayaraj (UMK)
Ecotourism	Dark Cave	Awareness, appreciation and knowledge for cave and karst conservation i	1 - Malaysian Nature Society (MNS - Selangor) 2 - HymeirKamaruddin (Malaysian Karst Society / Earth Lodge SdnBhd)





# Future Needs for Cave Research & Conservation in Malaysia

Action or support needed	Importance	Justification
Long term research grant	1	Lack of funding to do continuous research throughout limestone areas in Malaysia
Conservation of karst and caves	2	Quarry and ecotourism activities should be controlled by the wildlife management authorities
Research collaboration	3	Required more expertise from both local and foreign to share their skill and knowledge on cave bats
Awareness	4	Lack of awareness and support from both local and authorities