Eonycteris major, Greater Dawn Bat

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The IUCN Red List of Threatened Species™
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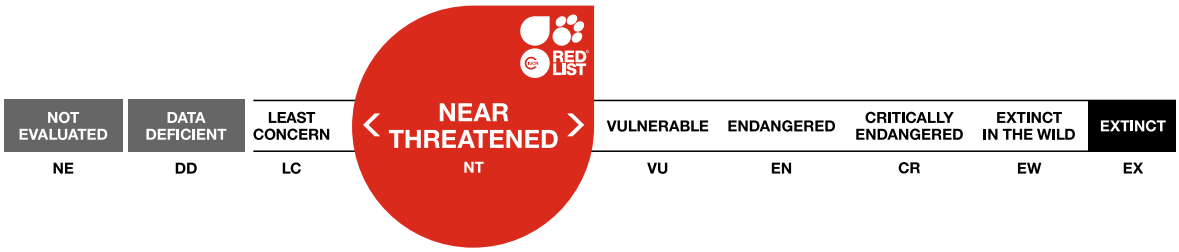
Eonycteris major, Greater Dawn Bat

Assessment by: Waldien, D.L. & Mohd-Azlan, J.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Chiroptera	Pteropodidae

Scientific Name: *Eonycteris major* K. Andersen, 1910

Common Name(s):

- English: Greater Dawn Bat

Assessment Information

Red List Category & Criteria: Near Threatened A2cd ver 3.1

Year Published: 2021

Date Assessed: November 20, 2020

Justification:

Eonycteris major is assessed as Near Threatened under criterion A2cd as the species global population is suspected to have declined by a rate of 25–29% over the past 12.9 years (three generations; GL = 4.3 years; Pacifici *et al.* 2013). Although data are limited as the species is rarely captured, the species decline is thought to result from the extent of disturbance at their cave roosts, loss of karst habitats, and the overall extensive forest loss and degradation on Borneo.

Previously Published Red List Assessments

2008 – Data Deficient (DD)
https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T7786A12849879.en

1996 – Lower Risk/least concern (LR/LC)

Geographic Range

Range Description:

Eonycteris major is endemic to Borneo and has been documented in Brunei, Indonesia, and Malayasia. Previous records of the species from Mentawai Islands have been excluded from this assessment as it is thought to be a large example of *spelaea* (Corbet and Hill 1992); Helgen (pers. comm.) suggests it may represent an undescribed subspecies.

Country Occurrence:

Native, Extant (resident): Brunei Darussalam; Indonesia; Malaysia

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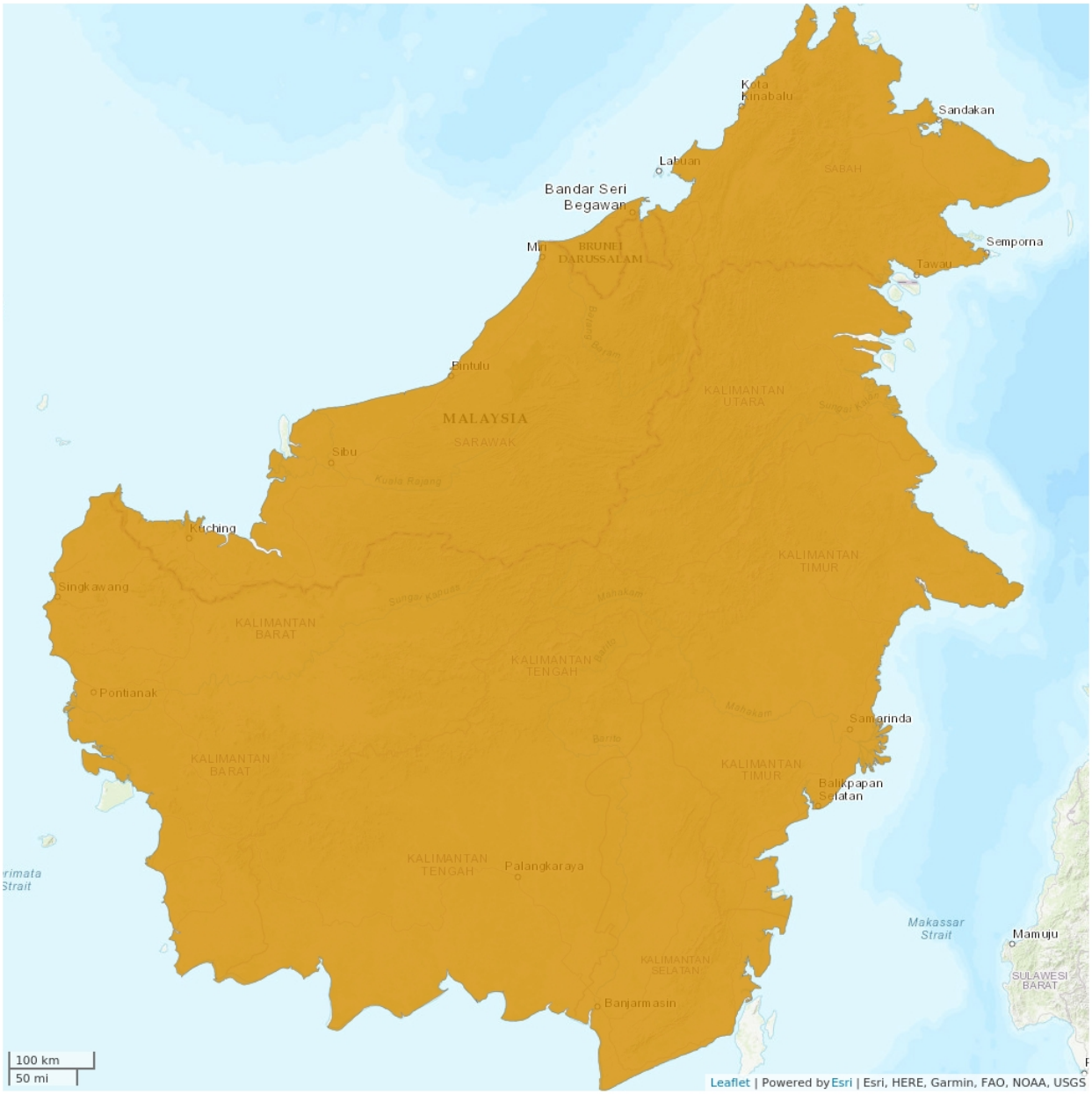
Distribution Map



Legend

EXTANT (RESIDENT)

Compiled by:

IUCN (International Union for Conservation of Nature) 2008

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

The species is considered to be an uncommon species that is rarely captured across Borneo. It is inconsistently documented even in areas where it has previously been captured (Tuen *et al.* 2003, Faisal *et al.* 2007, Wiantoro *et al.* 2009, Jayaraj *et al.* 2011). For example, only five individuals of *E. major* were captured during one of three separate projects at Mount Murad during the 2000s (Tuen *et al.*, 2003, Faisal *et al.* 2007, Wiantoro *et al.* 2009). Given exploitation of the species, extent of cave disturbance, and forest loss and degradation on Borneo, its global population is suspected to have declined by a rate of 25–29% over the past 12.9 years (three generations, GL = 4.3 years; Pacifici *et al.* 2013).

Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

Eonycteris major roosts in limestone caves throughout its range and has been recorded from sea level to *ca* 1,300 m near Borneo Highlands in Sarawak (Lim 1965, Mohd-Azlan *et al.* 2006). It is thought to be a canopy species as is infrequently encountered in bat surveys conducted in the forest understory. The species occurs across a range of forested habitats, from mixed lowland dipterocarp forest (e.g., near Loagan Bunut National Park) to lower montane forest near Borneo Highlands (Mohd-Azlan *et al.* 2006, Jayaraj *et al.* 2011).

The species has been captured in an orchard within Sungai Dewata (Pounsin *et al.* 2016) and has been collected in banana mixed garden habitats close to caves (A. Suyanto pers. comm.). While the species has been historically captured in heavily modified agricultural landscapes (e.g., rice fields and rubber plantations at Kampung Pangkalan Kuap South of Kuching, Lim 1965), more recent research has only documented it at the interface between forests and oil palm plantations (Mohd-Azlan *et al.* 2019) or in forests adjacent to oil palm plantations near Lambir Hills National Park (LHNP), Sarawak, Malaysia (Fukuda *et al.* 2009). It has also been documented (three individuals) in regenerated montane forests (1,000 m) at Mount Penrisen, Padawan (Jayaraj *et al.* 2011). Notably, 16 individuals (five male, 11 female) were captured at Kolej Universiti Sains Malaysia which was built on recovered mangrove land (Fadhullah and Ho 2013). Conversely, only three (3) individuals were confirmed at the Crocker Range Biosphere Reserve, one in the biosphere's buffer and two in extralimital agricultural landscapes (Yoh *et al.* 2020). Additional research on the species habitat associations, especially with primary forests across an elevational gradient is warranted.

Systems: Terrestrial

Use and Trade

The species is hunted locally as food within Borneo, but is not known to be hunted in Sarawak.

Threats (see Appendix for additional information)

The full extent of threats to *E. major* is unknown as the species is rarely encountered in most surveys, and it is only encountered in low numbers across a range of habitats. Exploitation of roosting caves (guano mining, general visitation) and the mining of limestone karst areas likely pose a significant threat to the species' roosts given the species dependence on them.

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Forest loss is assumed to be the most significant threat to *E. major* on Borneo as 24% of Borneo's primary forests had been lost by 1973 (Gaveau *et al.* 2017) and only half of it today (https://www.unenvironment.org/news-and-stories/story/deforestation-borneo-slowing-regulation-remains-key). While the rate of lost is decreasing, primary forest loss between 2000 and 2017 was 14%, resulting in a 170% increase in oil palm plantations (Gaveau *et al.* 2019).

This species is hunted for local consumption in some portions of Borneo (A. Suyanto pers. comm.), but the full extent and impact to the species populations is uncertain. The species is not thought to be hunted in Sarawak.

Conservation Actions **(see Appendix for additional information)**

There are no species-specific conservation initiatives in place for *E. major*. Conservation of known cave roosts is warranted as is protection of primary forests, especially near known roosts. This species receives Protection status in Sarawak under the Sarawak Wildlife Protection Ordinance 1998, but is not considered as a species of conservation importance in Sabah. It has been documented in at least one biosphere reserve (Crocker Range Biosphere Reserve; Yoh *et al.* 2020). Additional research is needed on the species population status and trends, distribution, habitat and ecology, and threats.

Credits

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Authority/Authorities: IUCN SSC Bat Specialist Group

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External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	Resident	Suitable	Yes
7. Caves and Subterranean Habitats (non-aquatic) -> 7.1. Caves and Subterranean Habitats (non-aquatic) - Caves	Resident	Suitable	Yes
14. Artificial/Terrestrial -> 14.4. Artificial/Terrestrial - Rural Gardens	Seasonal occurrence unknown	Unknown	-
14. Artificial/Terrestrial -> 14.6. Artificial/Terrestrial - Subtropical/Tropical Heavily Degraded Former Forest	Seasonal occurrence unknown	Suitable	-

Use and Trade

(http://www.iucnredlist.org/technical-documents/classification-schemes)

End Use	Local	National	International
Food - human	Yes	No	No

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	-	-	Low impact: 3
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
2. Land/water management -> 2.1. Site/area management

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

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Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats

Additional Data Fields

Distribution
Lower elevation limit (m): 0
Upper elevation limit (m): 1,100
Population
Extreme fluctuations: Unknown
Population severely fragmented: No
Continuing decline in subpopulations: Unknown
All individuals in one subpopulation: Unknown
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 4.3

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