

BAKO

Biodiversity Between Land and the Sea



Life from Headwaters to the Coast

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REPTILES

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The Bako Peninsula and its famous National Park, despite its proximity to Kuching, had received scant attention from herpetologists in the first few decades of its establishment. Starting in 1992, inventories of the reptile fauna have led to a growing list of species. The current checklist shows 62 species, as of 25 August 2022, comprising a crocodilian, four turtles, 26 lizards and 31 snakes. A total of six reptile species on Bako (five lizards and a snake) are Bornean endemics.

In general, the reptile fauna is typical of lowland forests of Borneo, with a few edge elements, such as the Common Sun Skink, *Eutropis multifasciata*, and the Asian House Gecko, *Hemidactylus frenatus*, that may have invaded the region along with humans and construction material. Species typical of mangroves include the Mangrove Skink, *Emoia atrocostata* and the Horned Flying Lizard, *Draco cornutus*. The former species has been observed being stalked, overpowered and consumed by the Water Monitor, *Varanus salvator*, which is sympatric in its mangrove and beach habitat in Bako. A recent study on the latter species of ‘flying lizard’ demonstrated mimicry of falling leaves by these lizards.

The Water Monitor can be frequently viewed from the comforts of the verandah of the chalets or the dining area, as it scavenges around the tourism facility, and presumably also preying on small vertebrates- birds and rodents, that frequent the area. These are some of the world’s largest lizards, reaching



Fig. 1. *Heosemys spinosa*.



Fig. 2. *Dogania subplana*.



Fig. 3. *Gekko cf. albofasciatus*.



Fig. 4. *Varanus salvator*.



Fig. 5. *Coelognathus flavolineatus*.



Fig. 6. *Gerarda prevostiana*.

a length of about 1.5 m, and although habituated to humans in Bako, can be formidable predators, and certainly dangerous to humans who approach too close. Another species often sighted is the Bornean Green Keeled Pit Viper, *Tropidolaemus subannulatus*, most frequently encountered on low shrubby vegetation around the tourism complex, particularly the jetty area. It is venomous, but with no records of human mortality. Also, look out for the other venomous snakes, including a coral snake and two cobras, including the King Cobra, *Ophiophagus hannah*. Those visiting the rocky islets or swimming off the coast also need to be mindful of the presence of the Yellow-lipped Sea Krait, *Laticauda colubrina*. The venom of all of these species show neurotoxic properties, necessitating an immediate visit to the Kuching's General Hospital for treatment.

Several of the species listed for Bako are in the Sarawak Wild Life Protection Ordinance 1998: *Crocodylus porosus*, *Dogania subplana*, *Varanus rudicollis*, *V. salvator*, *Malayopython reticulatus*, *Naja sumatrana* and *Ophiophagus hannah*.

From the vast area and habitats represented in Bako that remain unsurveyed, additional species may be expected. For instance, visiting researchers have spotted sea turtles, either the Green Turtle, *Chelonia mydas* or the Hawksbill Sea Turtle, *Eretmochelys imbricata*, off the Bako coast and, a Park Guide, in 1998, rescued a Hawksbill Sea Turtle entangled in a fishing net off the Bako coast. One can also add the Painted Terrapin, *Batagur borneoensis*, which is known to breed in nearby coastal areas, such as Samunsam Wildlife Sanctuary, and may eventually occur in the Bako area. A number of lizards and snakes are known from Bako's hinterland, and further field inventories will no doubt add to the list of reptiles known from Bako. As we say in the tropics, there is much to be done.



Fig. 7. *Aplopeltura boa*.



Fig. 8. *Xenodermus javanicus*.

REPTILES

Checklist

Reptiles recorded at Bako National Park. Current: 26 August 2022.
Bornean endemics indicated with an asterisk.

Species	Common Name	IUCN	Habitat	Remarks
CROCODYLIDAE				
<i>Crocodylus porosus</i> Schneider, 1801	Saltwater Crocodile	LC	Mangrove swamps, river mouths and coasts	
CHELONIIDAE				
<i>Eretmochelys imbricata</i> (Linnaeus, 1766)	Hawksbill Sea Turtle	CE	Coastal waters and perhaps beaches	
GEOEMYDIDAE				
<i>Cyclemys dentata</i> (Gray, 1831)	Common Leaf Turtle	NT	Lowland dipterocarp forests	Species complex includes 2 species on Borneo
<i>Heosemys spinosa</i> (Gray, 1831)	Spiny Hill Turtle	E	Lowland dipterocarp forests; Kerangas	Species complex with at least 2 species
TRIONYCHIDAE				
<i>Dogania subplana</i> (Geoffroy Saint- Hillaire, 1809)	Malayan Softshell Turtle	LC	Rocky streams	
AGAMIDAE				
<i>Aphaniotis fusca</i> (Peters, 1864)	Brown Shrub Lizard	LC	Lowland dipterocarp forests	
<i>Bronchocela cristatella</i> (Kuhl, 1820)	Crested Green Lizard	LC	Forest edges	Species complex
<i>Draco cornutus</i> Günther, 1864*	Horned Flying Lizard	LC	Mangrove forests	
<i>Draco sumatranus</i> Schlegel, 1844	Common Flying Lizard	LC	Forest edges	
<i>Gonocephalus liogaster</i> (Günther, 1872)	Blue-eyed Angle-headed Lizard	LC	Lowland dipterocarp forests	
<i>Pelturagonia nigrilabris</i> (Peters, 1864)*	Black-lipped Shrub Lizard	LC	Lowland dipterocarp forests	

REPTILES

Species	Common Name	IUCN	Habitat	Remarks
GEKKONIDAE				
<i>Cnemaspis kendallii</i> (Gray, 1845)*	Kendall's Day Gecko	LC	Lowland dipterocarp forests	Species complex with multiple species
<i>Cyrtodactylus consobrinus</i> (Peters, 1871)	Peters' Bent-toed Gecko	LC	Lowland dipterocarp forests	Species complex with at least 3 species
<i>Cyrtodactylus pubisulcus</i> Inger, 1957	Grooved Bent-toed Gecko	LC	Lowland dipterocarp forests	
<i>Gehyra mutilata</i> (Wiegmann, 1834)	Four-clawed Gecko	LC	Human commensal	
<i>Gekko kuhli</i> (Stejneger, 1902)	Kuhl's Parachute Gecko	LC	Lowland dipterocarp forests	Species complex with multiple species
<i>Gekko monarchus</i> (Duméril & Bibron, 1836)	Warty House Gecko	LC	Human commensal	
<i>Gekko</i> cf. <i>albofasciatus</i> (Günther, 1867) (as <i>Gekko smithii</i>)	White-banded Giant Gecko	LC	Lowland dipterocarp forests	Bornean population await a name
<i>Hemidactylus craspedotus</i> (Mocquard, 1890)	Frippy Forest Gecko	LC	Lowland dipterocarp forests	
<i>Hemidactylus frenatus</i> Duméril & Bibron, 1836	Asian House Gecko	LC	Human commensal	
<i>Hemiphyllodactylus typus</i> Bleeker, 1860	Common Worm Gecko	LC	Lowland dipterocarp forests and mangrove forests	
SCINCIDAE				
<i>Dasia grisea</i> (Gray, 1845)	Grey Tree Skink	LC	Lowland dipterocarp forests	
<i>Dasia olivacea</i> Gray, 1839	Olive Tree Skink	LC	Lowland dipterocarp forests	
<i>Dasia vittata</i> (Edeling, 1864)	Striped Bornean Tree Skink	LC	Lowland dipterocarp forests	
<i>Emoia atrocostata</i> (Lesson, 1830)	Mangrove Skink	LC	Mangrove forests	

REPTILES

Species	Common Name	IUCN	Habitat	Remarks
<i>Eutropis multifasciata</i> (Kuhl, 1820)	Common Sun Skink	LC	Lowland dipterocarp forests; forest edges	
<i>Eutropis rudis</i> (Boulenger, 1887)	Black-banded Ground Skink	LC	Lowland dipterocarp forests	
<i>Eutropis rugifera</i> (Stoliczka, 1870)	Red-throated Skink	LC	Lowland dipterocarp forests	
<i>Tropidophorus brookei</i> (Gray, 1845)*	Brooke's Water Skink	LC	Lowland dipterocarp forests	
VARANIDAE				
<i>Varanus rudicollis</i> Gray, 1845	Rough-necked Monitor Lizard	DD	Lowland dipterocarp forests	
<i>Varanus salvator</i> (Laurenti, 1768)	Water Monitor	LC	Mangrove forests and disturbed areas	
PYTHONIDAE				
<i>Malayopython reticulatus</i> (Schneider, 1801)	Reticulated Python	LC	Secondary forests and other open areas; rarely in forests	
COLUBRIDAE				
<i>Ahaetulla prasina</i> (Boie, 1827)	Oriental Vine Snake	LC	Lowland dipterocarp forests	
<i>Boiga melanota</i> (Boulenger, 1896)	Mangrove Cat Snake	NE	Mangrove forests and lowland dipterocarp forests	Formerly allocated to <i>Boiga dendrophila</i>
<i>Calamaria borneensis</i> Bleeker, 1860*	Bornean Reed Snake	LC	Lowland dipterocarp forests	
<i>Chrysopelea paradisi</i> Boie, 1827	Garden Flying Snake	LC	Lowland dipterocarp forests	
<i>Chrysopelea pelias</i> (Linnaeus, 1758)	Twin-barred Flying Snake	LC	Lowland dipterocarp forests	
<i>Coelognathus flavolineatus</i> (Schlegel, 1837)	Yellow-striped Rat Snake	LC	Secondary and edge forests	
<i>Dendrelaphis caudolineatus</i> (Gray, 1834)	Stripe-tailed Bronzeback Tree Snake	LC	Lowland dipterocarp forests	

REPTILES

Species	Common Name	IUCN	Habitat	Remarks
<i>Dendrelaphis formosus</i> (Boie, 1827)	Beautiful Bronzeback Tree Snake	LC	Lowland dipterocarp forests	
<i>Dendrelaphis pictus</i> (Gmelin, 1789)	Painted Bronzeback Tree Snake	LC	Lowland dipterocarp forests and edge habitats	
<i>Gonyosoma oxycephalum</i> (Boie, 1827)	Red-tailed Racer	LC	Lowland dipterocarp forests	
<i>Lycodon tristrigatus</i> (Günther, 1858)	Three-banded Wolf Snake	LC	Lowland dipterocarp forests	
<i>Oligodon octolineatus</i> (Schneider, 1801)	Eight-lined Kukri Snake	LC	Lowland dipterocarp forests	
<i>Oligodon signatus</i> (Günther, 1864)	Half-keeled Kukri Snake	LC	Lowland dipterocarp forests	
<i>Ptyas fusca</i> (Gunther, 1858)	White-bellied Rat Snake	LC	Lowland dipterocarp forests	
<i>Sibynophis melanocephalus</i> (Gray, 1834)	White-lipped Black-headed Snake	LC	Lowland dipterocarp forests	
<i>Xenelaphis hexagonotus</i> (Cantor, 1847)	Malayan Brown Snake	LC	Lowland dipterocarp forests	
NATRICIDAE				
<i>Hebius flavifrons</i> (Boulenger 1887)	White-fronted Keelback	LC	Lowland dipterocarp forests, in streams and rivers	
<i>Rhabdophis conspicillatus</i> (Günther, 1872)	Red-bellied Keelback	LC	Lowland dipterocarp forests	
<i>Xenochrophis maculatus</i> (Edeling, 1864)	Malayan Spotted Keelback Water Snake	LC	Lowland dipterocarp forests, in wetland areas	
<i>Xenochrophis trianguligerus</i> (Boie, 1827)	Red-sided Keelback Water Snake	LC	Lowland dipterocarp forests, in wetland areas	

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Species	Common Name	IUCN	Habitat	Remarks
HOMALOPSIDAE				
<i>Cerberus rynchops</i> (Schneider, 1799)	Dog-faced Water Snake	LC	Mangrove swamps and mud flats	
<i>Gerarda prevostianus</i> (Eydoux & Gervais, 1837)		LC		
VIPERIDAE				
<i>Tropidolaemus subannulatus</i> (Gray, 1842)	Bornean Green Keeled Pit Viper	LC	Lowland dipterocarp forests; forest edges	
ELAPIDAE				
<i>Calliophis bivirgatus</i> (Boie, 1827)	Blue Coral Snake	LC	Lowland dipterocarp forests	Species complex with multiple species
<i>Naja sumatrana</i> Müller, 1887	Sumatran Cobra	LC	Secondary forests and other open areas; rarely in forests	
<i>Ophiophagus hannah</i> (Cantor, 1836)	King Cobra	V	Lowland dipterocarp forests	Species complex with multiple species
<i>Laticauda colubrina</i> (Schneider, 1799)	Yellow-lipped Sea Krait	LC	Coral reefs and other nearshore habitats	
TYPHLOPIDAE				
<i>Indotyphlops braminus</i> (Daudin, 1803)	Brahminy Blind Snake	LC	Human commensal	
XENODERMIDAE				
<i>Xenodermus javanicus</i> Reinhardt, 1836	Rough-backed Litter Snake	LC	Lowland dipterocarp forests	
PAREIDAE				
<i>Aplopeltura boa</i> (Boie, 1828)	Blunt-headed Slug-eating Snake	LC		