A Field Guide to the
Amphibians and Reptiles
of Bako National Park

Pui Yong Min, Ramlah Zainudin
Taha bin Wahab, Kelvin Kok Peng Lim
Sabariman bin Hassan and Indraneil Das
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**Front cover:** top Shrub Lizard, Phoxophrys nigrilabris; bottom left Intermediate Sticky Frog, Kalophrynus intermedius; bottom middle Oriental Tree Snake, Ahaetulla prasina; bottom right Blue-eyed Angle-headed Lizard, Gonocephalus liogaster.

**Back cover:** Reticulated Python, Malayopython reticulatus.
A FIELD GUIDE TO THE AMPHIBIANS AND REPTILES
OF BAKO NATIONAL PARK

by
Pui Yong Min¹, Ramlah Zainudin², Taha bin Wahab³
Kelvin Kok Peng Lim⁴, Sabariman bin Hassan⁵ and Indraneil Das⁶

¹Institute of Biodiversity and Environmental Conservation
Universiti Malaysia Sarawak
94300 Kota Samarahan
Sarawak, Malaysia

²Faculty of Resource Science and Technology
Universiti Malaysia Sarawak
94300 Kota Samarahan
Sarawak, Malaysia

³Protected Areas and Biodiversity Conservation Division
SARAWAK FORESTRY Corporation Sdn Bhd
Lot 218, KCLD, Jalan Tapang, Kota Sentosa
93250 Kuching, Sarawak, Malaysia

⁴Lee Kong Chian Museum of Natural History
National University of Singapore

⁵Bako Park Guide
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Introduction

Bako National Park, gazetted in 1957, is the oldest National Park of Sarawak State. It covers an area of 2,742 hectares of sandstone peninsula, along the north-west coast of Borneo, the landmass jutting out to the South China Sea.

This field guide lists all species of amphibians and reptiles known from Bako National Park and its immediate vicinity. For each species, we provide the current scientific name, a recommended English name, maximum size attained, brief description relevant to identification, including scalation, general body form and colouration, and its conservation status (IUCN Red List, version 2016-1). The cut-off point for the checklist is 4 September 2016. We expect additional species of herpetofauna from the Bako, and would appreciate being informed of such records from the readers.
Topographical map of Bako National Park, Sarawak, Malaysia © Hans Hazebroek
Identification: Body stocky; hind limbs short; two pairs of ridges between eyes; parotoid gland longer than wide, followed by rows of warts; tympanum diameter larger than eye; fingers not fully webbed; back rather smooth, more warts on limbs and flanks. Back orange or yellow-brown; belly cream. IUCN Category: Least Concern.
BUFONIDAE

*Pelophryne signata* (Boulenger, 1894)
Short-legged Dwarf Toad  
Size 17.6 mm

**Identification:** Body slender; webbing on hand thick, reaching tip of first finger; half of outer fingers free; webbing reach disks of first toe only; disks on fingers expanded; parotoid gland absent; hind limbs short. Back pale to dark brown, small black spots, sometimes with a pale lateral stripe along flanks; belly yellow, spotted with brown or black.

**IUCN Category:** Near Threatened.
DICROGLOSSIDAE

Fejervarya cancrivora (Gravenhorst, 1829)
Mangrove Frog
Size 80 mm

**Identification:** Body moderately slender; snout narrow; dorsum with broken longitudinal ridges; flanks of body and limbs with rounded tubercles; outer metatarsal tubercle absent; toes with pointed tips, less than half webbed. Back brown to brownish-grey, with dark markings; belly cream. **IUCN Category:** Least Concern.
DICROGLOSSIDAE

_Limnonectes kuhlii_ (Tschudi, 1838)
Kuhl’s Creek Frog

Size 69 mm

**Identification:** Body robust; head enlarged in adult males, with large, tooth-like processes on mandibles; limbs short; flanks of body and limbs with rounded tubercles; toes webbed to tips; tympanum hidden; back dark or mid-brown with darker blotches; a pale brown band from eye to jaws and one across snout; belly cream, except for the dark-spotted throat and chest.

**IUCN Category:** Least Concern.
Identification: Body robust; snout rounded; tympanum and supratympanic fold distinct; a few low tubercles on dorsum; toe tips distinctly widened and webbed to tips, except toe IV, with one phalange free; back greyish-brown; dark tympanum and supratympanic fold; belly yellow. IUCN Category: Near Threatened.
DICROGLOSSIDAE

*Occidozyga laevis* (Günther, 1859)
Yellow-bellied Puddle Frog  Size 48 mm

**Identification:** Body stocky; hind limbs short and thick; toes thick, fully webbed, with rounded tips; a single tooth-like projection on lower jaw; back dark grey brown, sometimes with a pale vertebral stripe; belly lemon yellow. **IUCN Category:** Least Concern.
MEGOPHYIDAE

_Leptobrachium ingeri_ Hamidy, Matsui, Nishikawa & Belabut, 2012
Inger’s Litter Frog  Size 47 mm

**Identification:** Body stocky; head wider than body; eyes large; limbs short and weak; toes webbing relatively well developed; toe tips pointed; inner metatarsal tubercle large; skin of dorsum smooth. Back dark brown to grey, usually with a darker pattern on forehead and body; tympanum one-third covered by dark marking; flanks with scattered dark spots; belly and limbs with dark patches; limbs barred dorsally. **IUCN Category:** Not Evaluated.
MICROHYLIDAE

Kalophrynus intermedius Inger, 1966
Intermediate Sticky Frog Size 41 mm

Identification: Body slender; head narrow; snout pointed; skin with large granular structures; outermost fingers and toes short; toes basally webbed; back greyish-brown, sometimes with darker markings; flanks yellow to cream-coloured; throat pale pink with paired dark longitudinal stripes; chest and belly cream-coloured. IUCN Category: Vulnerable.
Identification: Body stout; snout pointed; outer fingers and toes small; toes barely webbed; dorsal surface of females pebbly, that of males with tiny spines; back tan to dark brown, usually with darker blotches, flanks brownish-orange; a dark eye-like spot in inguinal region; throat and chest brown; belly grey. IUCN Category: Not Evaluated.
Microhylidae

Microhyla nepenthicola Das & Haas, 2010
Pitcher Plant Narrow-mouthed Frog Size 16 mm

Identification: Body stocky; skin smooth; head narrow; snout pointed; tympanum absent; only three fingers present; toe tips widened; hind limbs elongate. Back brownish-pink to grey; dark brown patch on the middle of the back; black blotches below eye and nares; black dots along flanks; belly mottled with brown. IUCN Category: Least Concern.
RANIDAE

Chalcorana raniceps (Peters, 1871)
Copper-cheeked Frog

Size 60 mm

Identification: Body slender in males, relatively robust in adult females; head pointed; toes nearly completely webbed; finger and toe tips with disks; tympanum large. Back green, changeable to brown; a distinct white lip; belly cream; ventral surface of thighs reddish-pink. IUCN Category: Least Concern.
Identification: Body slender; head relatively large; eye prominent; tympanum visible; toes less than half webbed; fingers long; upper lip with pale spots; Back dark brown, with darker spots on the sides, granular to slightly warty in texture; tympanum black, with a distinct pale centre; belly cream or pale brown; iris golden with red-copper tint anterior and posterior to pupil. IUCN Category: Least Concern.
RANIDAE

Pulchrana signata (Günther, 1872)
Striped Stream Frog

Size 68 mm

Identification: Body slender; tympanum visible; tips of digits slightly swollen; toes over half webbed; back and sides dark brown to nearly black, with yellow or orange spots, a red to orange stripe is starting from the snout and continues to the end of the body without interruption, separating on both sides the dorsum from the flanks; belly grey. IUCN Category: Least Concern.
**RHACOPHORIDAE**

*Philautus tectus* Dring, 1987  
Arched Bush Frog  
Size 27 mm

**Identification:** Body slender; head narrow; lores deeply concave; canthus prominent; hind limbs long; nuptial pads large; tips of fingers and toes expanded into disks; toes half webbed; back weakly tuberculate; dorsal tan or yellow, changing under stress to mottled grey and brown; a light-edged dark bar between the eyes; belly greyish-cream. **IUCN Category:** Vulnerable.
RHACOPHORIDAE

*Polypedates colletti* (Boulenger, 1890)
Collett's Tree Frog

**Size 78 mm**

**Identification:** Body slender; head triangular; snout acutely pointed; tympanum distinct; most toes extensively webbed; back and belly coarsely granular; a conical appendage on heel; back tan to reddish-brown or brownish-grey; a dark hour-glass shaped pattern; flanks with scattered dark spots; limbs with dark bars. **IUCN Category:** Least Concern.
**RHACOPHORIDAE**

*Polypedates leucomystax* (Gravenhorst, 1829)  
Four-lined Tree Frog  
Size 75 mm

**Identification**: Body slender in males, robust in females; snout profile rounded; fingers free of web; no fringe of skin along arm; no tubercle on heel; skin smooth; back variable, ranging from yellow, olive to brownish-yellow, with or without dark lines on back; belly cream. **IUCN Category**: Least Concern.
RHACOPHORIDAE

*Rhacophorus pardalis* Günther, 1859
Harlequin Tree Frog  Size 75 mm

**Identification:** Body relatively slender in males, robust in females; snout rounded; tips of fingers and toes disk-like; fingers and toes fully webbed; fleshy flap at heel; back and forehead reddish-orange, pink or reddish-brown, with darker markings; webbing orange to red; iris tan; belly yellow, with red areas. **IUCN Category:** Least Concern.
**CROCODYLIDAE**

*Crocodylus porosus* Schneider, 1801  
Saltwater Crocodile  
Size 6.2 m

**Identification:** Head large with a heavy snout; a pair of ridges running from orbit to the centre of snout; scales on back more oval than in most other crocodiles; anterior nuchal scales usually absent; juveniles brightly coloured, being black spotted or blotched on a pale yellow or grey background; adults greyish-olive, the bands showing less contrast.  
**IUCN Category:** Low Risk/Least Concern.
**GEOEMYDIDAE**

**bornean leaf turtle**  
**Size 235 mm**

**identification:**  
Carapace oval, depressed, three keeled; enlarged scales on forehead; plastron with a hinge in adults; carapace dark brown, with a reddish tinge; forehead copper to brown, lighter than temporal region; neck dark, lacking stripes; plastron dark brown to black, sometimes with dark radiating lines. **iucn category:** Not evaluated.
GEOEMYDIDAE

*Heosemys spinosa* (Gray, 1831)
Spiny Hill Turtle

Size 220 mm

**Identification:** Carapace oval; vertebral keel distinct; marginals of adults smooth; marginals of juveniles expanded, with distinct spines; plastron with weak hinge in females; fingers and toes partially webbed; hind limbs club-shaped; carapace brown, small, yellowish-orange or red spot behind eye; plastron brown, scutes with radiating lines. IUCN Category: Endangered.
TRIONYCHIDAE

Dogania subplana (Geoffroy Saint-Hilaire, 1809)
Malayan Softshell Turtle

Size 350 mm

Identification: Carapace flattened, oval, with straight sides; head large, with downturned snout; carapace dark olive or brown with a dark median stripe and two or three pairs of black-centred eye-like spots, especially in juveniles; plastron cream coloured or grey; juveniles with a reddish-brown blotch behind eyes.

IUCN Category: Low Risk/Least Concern.
COLUMBRIDAE

Ahaetulla prasina (Boie, 1827)  
Oriental Vine Snake  
Size 1,970 mm

**Identification:** Body slender; snout elongated; groove along snout; eyes large; pupil horizontal; tail long, with a prehensile tip; dorsals smooth; midbody scale rows 15; ventrals 194–235; subcaudals 141–207, paired; anal divided; back green, brown, yellow or dark grey, speckled with black; a yellow stripe along lower flanks; belly light green or dark grey. **IUCN Category:** Least Concern.
**COLUBRIDAE**

*Boiga dendrophila* (Boie, 1827)
Mangrove Cat Snake  
Size 2,500 mm

**Identification**: Body large, thick; head distinct from neck; snout short, rounded; loreal present; eye large; pupil vertical; dorsals smooth; midbody scale rows 21 (rarely, 23); ventrals 209–253; subcaudals 89–118, paired; anal entire; dorsum black with 35–45 narrow yellow rings around body and 10 on tail; labials and gular region yellow; belly grey. **IUCN Category**: Not Evaluated.
COLUMBRIDAE

Chrysopela paradisi (Boie, 1827)
Garden Flying Snake Size 1,500 mm

Identification: Body slender; head depressed; loreal present; eye large; pupil rounded; tail long, slender; dorsals smooth or weakly keeled, with apical pits; midbody scale rows 17; ventrals 198–239; subcaudals 106–149, paired; anal divided; dorsum black, centre of each scale with a green spot; vertebral region of some individuals with a row of 3–4 pink or red spots; forehead with yellow bands; belly green, with black edges. **IUCN Category:** Least Concern.
**Identification**: Body slender; head depressed; tail long, slender; dorsals smooth or weakly keeled, with apical pits; midbody scale rows 17; ventrals 181–201; subcaudals 89–120, paired; anal divided; dorsum with red or orange spots and yellow or cream cross-bars, edged with black bars; forehead orange, red or brown, with three red cross-bars; belly pale.

**IUCN Category**: Least Concern.
Identification: Body slender; head indistinct from neck; snout long; loreal present; eye large; pupil rounded; tail long, slender; dorsally keeled; mind-body scales 19; centrals 193–242; subcaudals 80–116, paired; anal entire; dorsum brownish-grey or brownish-olive; dark postocular stripe, and another stripe along nape; several elongated blotches on top and sides; belly pale yellow. IUCN Category: Least Concern.
**Identification**: Body slender; head distinct from neck; snout bluntly rounded; loreal present; tail long, eye large; dorsals smooth; midbody scale rows 13; ventrals 174–189; subcaudals 105–116, paired; ventrals and subcaudals with sharp keel on outer edges; anal divided; dorsum olive brown; pale green stripe on lower flanks, dorsal edge with narrow black stripe, ventral edge with broad black stripe; belly pale green. **IUCN Category**: Not Evaluated.
COLUMBRIDAE

Dendrelaphis formosus (Boie, 1827)
Beautiful Bronzeback Tree Snake    Size 1,470 mm

Identification: Body slender; head widened behind snout, distinct from neck; eye large; pupil rounded; tail slender; vertebrae enlarged; midbody scale rows 15; ventrals 176–194; subcaudals 142–162, paired; anal divided; dorsum blue; black postocular stripe covers temporal region and extends onto neck; three dark lateral stripes on posterior third of body; dorsals dark-edged. IUCN Category: Least Concern.