A Field Guide to the
Amphibians
of Gunung Gading National Park
Sarawak (Borneo)

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A FIELD GUIDE TO THE AMPHIBIANS OF GUNUNG GADING NATIONAL PARK, SARAWAK (BORNEO)

by
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Gunung Gading National Park (Park Headquarters at 01.6905°N, 109.8459°E) is located in western Sarawak, northwestern Borneo. Gazetted in 1983 primarily to protect the world’s largest flower (Rafflesia), this lowland rainforest of about 41 sq km, with a series of low hills, is home to a rich amphibian fauna.

The geology of Gading is unusual in being largely granitic in nature, the summit being 965m above sea level (asl). Other peaks include Perigi (955m), Lundu (823m) and Sebuloh (625m). The primary vegetation is mixed dipterocarp, dominant below 600m asl, being gradually replaced by lower montane forest near the summit.

In order to enhance its interpretive service to visitors, Sarawak Forestry Corporation has started a project to collate information on the fauna and make the same available to visitors. This field guide to the amphibians of Gunung Gading National Park is based on our inventories since 1989. The cut-off date for the checklist is 6 April 2017.

For every species, we provide a common (English) name, the current scientific name and authority and date, size information (maximum snout-vent length, SVL, recorded for the species), brief description of the external morphology and colouration of the adult stages relevant to its identification, reproduction (in terms of where breeding takes place and the nature of its larval stages), conservation status, according to the most recent version of the IUCN Red List (version 2016-3, accessed 6 April 2017), and finally, additional remarks if needed. For each species, we present an image of an adult, and when available, that of a larva, both not reproduced to scale. Further information can be obtained from the references listed at the end of this field guide.
Ansonia leptopus (Günther, 1872)  
Brown Slender Toad  

SVL to 64 mm

**Morphology**– Habitus slender; back with small warts; sides with large, flat warts; snout projecting obliquely; tympanum ¼ eye diameter; fingers slender; tips of outer fingers rounded; toes three-fourths webbed in males, slightly less in females; tarsal ridge absent.

**Colour**– Dorsum uniformly brown; throat and chest dusky; belly greyish-brownish.

**Reproduction**– Eggs laid in forest streams; larvae feeding and free-swimming.

**Conservation Status**– Near Threatened.
Ansonia longidigita Inger, 1960
Long-fingered Slender Toad

Morphology—Habitus slender; back with small warts; sides with large, flat warts; snout projecting obliquely; tympanum ¼ eye diameter; fingers slender; tips of outer fingers rounded; toes three-fourths webbed in males, slightly less in females; tarsal ridge absent.

Colour—Dorsum uniformly brown; throat and chest dusky; belly greyish-brownish.

Reproduction—Eggs laid in forest streams; larvae feeding and free-swimming.

Conservation Status—Near Threatened.
*Ansonia spinulifer* (Mocquard, 1890)
Spiny Slender Toad

**SVL to 45 mm**

**Morphology**—Habitus slender; limbs long and thin; tips of fingers rounded; toes nearly free of web; tympanum visible; large, spinose tubercles on dorsum.

**Colour**—Dorsum black, with grey to yellowish-cream oval patch between shoulders; belly dark with pale spots and streaks.

**Reproduction**—Eggs laid in forest streams; larvae feeding and free-swimming.

**Conservation Status**—Near Threatened.
Duttaphrynus melanostictus (Schneider, 1799)
Common Asian Toad  
SVL to 115 mm

**Morphology**— Body stocky with warty skin; snout obtusely pointed; tympanum distinct, about half eye diameter; elongated parotoid gland; toes half webbed; black bony ridges from snout to eye and around upper orbit and tympanum.

**Colour**— Back greyish-brown, with orange and yellow markings during the breeding season; belly cream.

**Reproduction**— Egg laid in pools and drains; larvae feeding and free-swimming.

**Conservation Status**— Least Concern.
*Ingerophrynus divergens* (Peters, 1871)
Crested Toad

**Morphology**– Body stocky; a pair of ridges between eyes; parotoid gland longer than wide, followed by rows of warts; fingers not fully webbed.

**Colour**– Back orange or yellow-brown, sometimes with yellow vertebral stripe; belly cream.

**Reproduction**– Egg laid in forest pools; larvae feeding and free-swimming.

**Conservation Status**– Least Concern.
*Ingerophrynus quadriporcatus* (Boulenger, 1887)
Four-ridged Toad

**Morphology**— Body stout; back covered with warts; snout obtusely pointed; a pair of supraorbital-parietal ridges; tympanum distinct, about ¾ eye diameter; parotoid gland narrowly elongated and raised; toes half webbed.

**Colour**— Back dark brown to orangish-brown; belly yellowish-grey.

**Reproduction**— Egg laid in forest pools; larvae feeding and free-swimming.

**Conservation Status**— Least Concern.
Pelophryne signata (Boulenger, 1894)
Short-legged Dwarf Toad

Morphology—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.

Colour—Back pale to dark brown, small black spots, sometimes with a pale lateral stripe along flanks; belly yellow, spotted with brown or black.

Reproduction—Egg are laid in tree holes; larvae non-feeding and free-swimming.

Conservation Status—Near Threatened.
Fejervarya limnocharis (Gravenhorst, 1829)
Grass Frog

Morphology— Body moderately slender; snout narrow; dorsum with broken longitudinal ridges; outer metatarsal tubercle absent; toes with pointed tips, less than half webbed.

Colour— Back brown to brownish-grey, some with a pale yellow vertebral line; males with a black, M-shaped band across throat; belly cream.

Reproduction— Egg are laid in pools and drains; larvae feeding and free-swimming.

Conservation Status— Least Concern.
**Limnonectes hikidai** Matsui & Nishikawa, 2014
Hikida’s Rivulet Frog  
SVL to 74 mm

**Morphology**—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 with two phalanges free of webbing; tympanum hidden.

**Colour**—Back brown or olive-brown, with darker blotches; a dark band across the eyes; lips barred with black and reddish-brown; belly pale yellow.

**Reproduction**—Eggs are laid in pools and in running waters; larvae feeding and free-swimming.

**Conservation Status**—Not Evaluated.
Limnonectes aff. kuhlii (Tschudi, 1838)
Kuhl's Creek Frog  
SVL to 69 mm

**Morphology**—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.

**Colour**—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.

**Reproduction**—Egg laid in forest pools and streams; larvae feeding and free-swimming.

**Conservation Status**—Least Concern.

**Remarks**—Bornean populations non-conspecific with name-bearing Javanese species.
Limnonectes leporinus (Andersson, 1923)  
Giant River Frog  
SVL to 180 mm

**Morphology**– Body robust; snout pointed; limbs long and powerful; short ridges on back; toes fully webbed; males larger than females; lower jaws with enlarged fang-like structure.

**Colour**– Back brown to grey; a dark streak between eye and nostril marking canthal ridge; limbs dark-banded.

**Reproduction**– Eggs laid in forest streams; larvae feeding and free-swimming.

**Conservation Status**– Least Concern.
*Limnonectes malesianus* (Kiew, 1984)
Malaysian River Frog

**SVL to 150 mm**

**Morphology**— Body robust; head large in males; limbs long; toes 3/4 webbed and swollen at tips; tympanum visible and tympanic region flattened; snout profile between eye and nostril flat and smooth.

**Colour**— Back reddish-brown to brownish-pink; snout set off from dorsum by dark band between eyes, and eye to upper lip bands; a pale, thin vertebral stripe present in some individuals; belly cream with dark mottling.

**Reproduction**— Eggs laid in swamps and other lowland forest wetlands; larvae feeding and free-swimming.

**Conservation Status**— Near Threatened.
*Limnonectes palavanensis* (Boulenger, 1894)
Smooth Guardian Frog
SVL to 40 mm

**Morphology**—Body fairly slender; hind limbs long and slender; tympanum exposed; toes half webbed, with slightly swollen tips; a V-shaped ridge of skin between shoulders; rest of back smooth.

**Colour**—Back reddish-brown to chocolate brown; sometimes, a yellow or cream coloured vertebral stripe present; a dark bar between eyes; V-shaped ridge on back edged with black; belly bright yellow.

**Reproduction**— Produces terrestrial eggs that are guarded by males who transport them to stream; tadpoles feed and swim in such microhabitats.

**Conservation Status**—Least Concern.
Leptobrachella mjobergi Smith, 1925
Mjöberg's Litter Frog

**Morphology**—Body moderately slender; tympanum distinct; hind limbs long; elongate glands on flanks; tips of fingers and toes acute; toe webbing basal.

**Colour**—Back pale- or mid-brown; a dark triangular pattern on forehead; shoulder with a dark W-shaped mark; belly paler, dark markings on sides.

**Reproduction**—Breeds in streams and mid-sized rivers; tadpoles are of the feeding and free-swimming type, and burrow in gravel.

**Conservation Status**—Least Concern.
*Leptobrachium abbotti* (Cochran, 1926)
Lowland Litter Frog

**Morphology**—Body stocky; head wider than body; eyes large; limbs short and weak; toes nearly free of webbing; skin of dorsum smooth.

**Colour**—Back dark brown, usually with a darker pattern on forehead; iris dark brown, edges blue beyond iris; belly cream with or without dark patches.

**Reproduction**—B Breeds in streams and mid-sized rivers; tadpoles are of the feeding and free-swimming type.

**Conservation Status**—Least Concern.
*Leptolalax gracilis* ( Günther, 1872)  
Sarawak Slender Litter Frog  
SVL to 50 mm

**Morphology**—Body habitus slender; head longer than wide; tips of fingers and toes rounded; skin surface of top and sides of body with tubercles and ridges; toes basally webbed.

**Colour**—Back dark greyish-blue or brown, with black blotches and a black bar between the eyes; belly cream with black spots; upper surfaces of limbs are dark barred; upper surface of arm cream.

**Reproduction**—Breeds in streams and mid-sized rivers; tadpoles are of the feeding and free-swimming type, and inhabit interstices of rocks.

**Conservation Status**—Near Threatened.
Leptolalax marmoratus Matsui, Zainudin & Nishikawa, 1997
Marbled Slender Litter Frog

Morphology—Body habitus slender; head longer than wide; tips of fingers and toes rounded; skin surface of top and sides of body smooth; toes basally webbed.

Colour—Back pale or mid-brown, with light-edged black blotches; belly cream cream-coloured, without black blotches; upper surfaces of forearm is slightly paler than rest of body, but not cream-coloured.

Reproduction—Breeds in streams and mid-sized rivers; tadpoles presumably are of the feeding and free-swimming type, and inhabit interstices of rocks.

Conservation Status—Not Evaluated.
*Megophrys nasuta* (Schlegel, 1858)  
Bornean Horned Toad  
SVL to 125 mm

**Morphology**– Body robust, especially in females; large appendages on snout-tip and upper eyelids; head wider than long; tympanum hidden; tips of fingers and toes blunt; fingers free; toes basally webbed; skin with two pairs of parallel skin folds.

**Colour**– Back pale to dark brown, with a black bar under the eyes; limbs with narrow dark crossbars; throat brownish-black in males.

**Reproduction**– Breeds in streams and mid-sized rivers; tadpoles are of the feeding and free-swimming type, feeding at the water-surface.

**Conservation Status**  
– Least Concern.
*Chaperina fusca* Mocquard, 1892
Saffron-bellied Frog
SVL to 26 mm

**Morphology**– Body stout; snout short; small flexible spine at elbow and at heels; toes free of web; tips of fingers and toes slightly dilated.

**Colour**– Back greenish- or bluish-black, with darker patches; belly and undersurfaces of limbs with a black network enclosing bright yellow spots.

**Reproduction**– Eggs laid in tree holes and other small bodies of water; feeding and swimming tadpoles develop in such waterbodies.

**Conservation Status**– Least Concern.
Kalophrynus heterochirus (Boulenger, 1900)
Variable Sticky Frog SVL to 33 mm

Morphology—Body slender; head narrow; snout pointed; skin finely granular; first and fourth fingers subequal; toes basally webbed.

Colour—Back brownish-orange; groin with several dark-bordered bluish or cream-coloured spots; belly cream with darker markings.

Reproduction—Breeding habits unreported but like its congeners, suspected to be a phytothem-breeder, showing feeding larvae.

Conservation Status—Least Concern.
Kalophrynus intermedius Inger, 1966
Intermediate Sticky Frog

SVL to 41 mm

Morphology—Body slender; head narrow; snout pointed; skin with large granular structures; outermost fingers and toes short; toes basally webbed.

Colour—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.

Reproduction—Breeding habits unreported but like its congeners, suspected to be a phytohelm-breeder, showing feeding larvae.

Conservation Status—Vulnerable.
Metaphrynella sundana (Peters, 1867)  
Bornean Tree Hole Frog  

SVL to 25 mm

**Morphology**– Body robust; tips of fingers widened; inner metatarsal tubercle low; toes webbed; dorsum and flanks with scattered tubercles.

**Colour**– Back pale to dark brown or grey-black, with a darker mark in the middle of the back; dorsal surface of fingers yellow to orange; belly grey.

**Reproduction**– Eggs laid in tree holes and other small bodies of water; swimming tadpoles develop in such waterbodies.

**Conservation Status**  
– Least Concern.
Chalcorana raniceps (Peters, 1871)
White-lipped Frog

**Morphology**—Body slender in males, relatively robust in adult females; head pointed; toes nearly completely webbed; finger and toe tips with disks; tympanum large.

**Colour**—Back green, changeable to brown; a distinct white lip; belly cream; ventral surface of thighs reddish-pink.

**Reproduction**—Eggs laid in forest streams as well as pools; larvae feeding and free-swimming.

**Conservation Status**—Least Concern.
Meristogenys jerboa (Günther, 1872)
Matang Torrent Frog

SVL to 63 mm

Morphology—Body slender in males, relatively more stocky in females; hind limbs very long; tips of fingers and toes expanded into disks; webbing on toes extensive; dorsum lacking large tubercles or warts.

Colour—Back dark brown; a blackish-brown lateral stripe; belly cream-coloured; undersurface of limbs yellow.

Reproduction—Eggs laid in swift-flowing rocky forest streams at medium to low elevations; larvae feeding and free-swimming, showing adaptations for such habitats, including oral and abdominal suckers.

Conservation Status—Vulnerable.
Meristogenys penrissenensis Shimada, Matsui, Nishikawa & Eto, 2015
Penrissen Torrent Frog
SVL to 73 mm

Morphology—Body slender in males, relatively more stocky in females; hind limbs very long; tips of fingers and toes expanded into disks; webbing on toes extensive; dorsum lacking large tubercles or warts.

Colour—Back pale brown; a few black spots on forehead; no dark lateral stripe; belly cream-coloured; undersurface of limbs cream, with scattered dark brown spots.

Reproduction—Eggs laid in swift-flowing rocky forest streams at medium to low elevations; larvae feeding and free-swimming, showing adaptations for such habitats, including oral and abdominal suckers.

Conservation Status—Not Evaluated.
Odorrana hosii (Boulenger, 1891)
Poisonous Rock Frog

**SVL to 100 mm**

**Morphology**– Body robust; hind limbs long; tips of fingers and toes expanded into pads; toes fully webbed; an indistinct dermal fold on sides of body; skin of back with fine pebbling.

**Colour**– Back dark green; flanks grey or paler; dorsum of limbs pale brown, with dark cross-bars; belly grey or cream-coloured.

**Reproduction**– Eggs laid in forest streams; larvae feeding and free-swimming.

**Conservation Status**
– Least Concern.
*Pulcharana baramica* (Boettger, 1901)
Brown Marsh Frog

**SVL to 67 mm**

**Morphology**— Body slender; skin granular to slightly warty in texture; head relatively large; eye prominent; tympanum visible; toes about half webbed; fingers long; upper lip with pale spots.

**Colour**— Back mid-brown to dark brown, with darker spots on the sides; tympanum dark brown, with a distinct pale centre; belly cream or pale brown; iris golden with red-copper tint anterior and posterior to pupil.

**Reproduction**— Breeds in standing bodies of water, such as ponds and swamps; tadpoles are of the feeding and swimming type.

**Conservation Status**— Least Concern.
*Pulehra* *na glandulosa* (Boulenger, 1882)
Rough-sided Frog

**SVL to 93 mm**

**Morphology**— Body robust; head relatively large; skin granular with warts; flanks with large, flat warts; tympanum large; a large gland on upper arm; toes half webbed.

**Colour**— Back blackish-grey or dark brown, with darker patches; upper lip with pale spots; belly cream; iris red.

**Reproduction**— Breeds in standing bodies of water, such as ponds and swamps; tadpoles are of the feeding and swimming type.

**Conservation Status**— Least Concern.
Pulchrana laterimaculata (Barbour & Noble, 1916)  
Side-spotted Frog  
SVL to 47.5 mm

**Morphology**— Body slender; skin granular and tuberculate; head relatively large; eye prominent; tympanum visible; toes less than half webbed; fingers long.

**Colour**— Back dark brown, with darker spots on top and flanks, tympanum black, without a pale centre; belly cream or pale brown; iris golden on top, reddish-brown below.

**Reproduction**— Breeds in standing bodies of water, such as ponds and swamps; tadpoles are of the feeding and swimming type.

**Conservation Status**— Least Concern.
Pulchrana picturata (Boulenger, 1920)
Spotted Stream Frog

SVL to 68 mm

Morphology—Body slender; tympanum visible; tips of digits slightly swollen; toes over half webbed.

Colour—Back and sides dark brown to nearly black, with yellow or yellowish-orange angular spots; yellow-orange lateral stripe from snout to eye; spots behind eye; belly grey.

Reproduction—Eggs laid in forest streams; larvae feeding and free-swimming.

Conservation Status—Least Concern.
*Pulchrana signata* (Günther, 1872)
Striped Stream Frog

**SVL to 68 mm**

**Morphology**– Body slender; tympanum visible; tips of digits slightly swollen; toes over half webbed.

**Colour**– 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.

**Reproduction**– Eggs laid in forest streams; larvae feeding and free-swimming.

**Conservation Status**– Least Concern.
Staurois guttatus (Günther, 1858)  
Black-spotted Rock Frog  
SVL to 55 mm

**Morphology**—Body slender; snout pointed; skin of dorsum granular with some rounded warts; toes fully webbed; tips of fingers and toes broad disk-like.

**Colour**—Back olive green to brown (especially in adult females), with large black spots, changeable to olive-green when stressed; webbing of toes turquoise blue; belly cream

**Reproduction**—Eggs laid in forest streams; larvae feeding and free-swimming.

**Conservation Status**—Least Concern (as Staurois nator, now non-conspecific).
Staurois tuberilinguis **Boulenger, 1918**
Green-spotted Rock Frog  
SVL to 43 mm

**Morphology**—Body slender; snout somewhat pointed; back with fine pebbling with oval, low tubercles; hind limbs slender; toes fully webbed; tips of fingers and toes broad disk-like.

**Colour**—Back bluish-green, with dark green areas; pale green patches on back and behind the eyes are distinct; throat is pale green, with dark spots; belly is pale blue.

**Reproduction**—Eggs laid in forest streams; larvae feeding and free-swimming.

**Conservation Status**—Near Threatened.