

A Guide to the

FROGS

of Lambir Hills National Park



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Front cover: *Rhacophorus nigropalmatus* by Indraneil Das
Back cover: *Kalophrynus* sp. by Pui Yong Min
Concept and Design: Pui Yong Min

A GUIDE TO THE FROGS OF LAMBIR HILLS NATIONAL PARK

by

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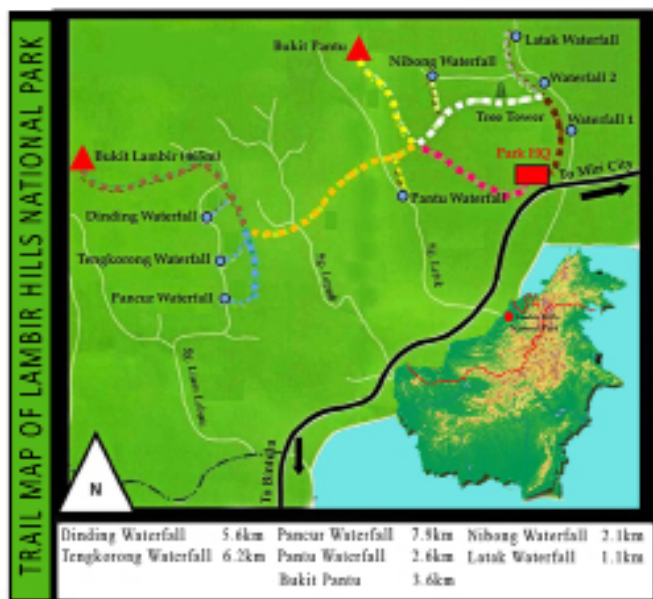


Lambir Hills National Park (Park Headquarters at 04°20'N, 113°50'E) was established in 1975 to protect a mostly lowland landscape with rolling hills that reach 465 metres asl at the summit of Bukit Lambir, in northern Sarawak. The Park encompasses an area of 6,949 hectares of mixed-dipterocarp forests and Bornean heath forests (local name: Kerangas). The area is known to be one of the most botanically diverse regions in the world, with 1,175 tree species identified from a single 52 hectare plot.

The Park is the site of an intense international research project, focusing on the ecology of these forests. Information on the animal diversity of the Park is scanty, and we present here a simple field guide to the amphibian fauna of Lambir Hills National Park, based on our inventories since 1992, and those reported in the literature.

This little field guide introduces the participants of the 5th International Bornean Frog Race, being held on 30 April 2016 at Lambir Hills National Park, Sarawak, East Malaysia (Borneo) to the frog fauna of the Park. It is based on our work in the Park, spanning nearly two decades, and lists all species of amphibians known thus far. Larval stages have not been included in this edition.

For every species, we provide a common (English) name, the current scientific name and authority and date, size and conservation status. Note that the images are not to scale.



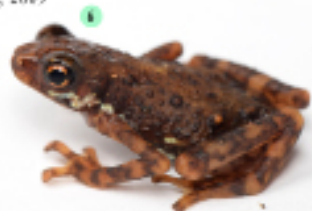
| Family name | Family MEGOPHYLIDAE | Litter Frogs |
|----------------------------|---|--|
| Species number | <ul style="list-style-type: none"> 1 ● <i>Apidobatrachus johnstoni</i> Ho, Slater & Nishida, 2011 2 ● <i>Bog's Green Litter Frog</i>, 002, ca. 91 mm 3 ● <i>Apidobatrachus aberti</i> (Cochran, 1954) 4 ● <i>Lutadendro litter frog</i>, 003, ca. 91 mm 5 ● <i>Apidobatrachus gracilis</i> (Cochran, 1972) 6 ● <i>Kerangas Green Litter Frog</i>, 001, ca. 80 mm 7 ● <i>Megophrys sarawakensis</i> (Kalkreuth, 1939) 8 ● <i>Bornean Rainforest Frog</i>, 001, ca. 121 mm | <ul style="list-style-type: none"> Scientific name Common name and maximum snout-vent length Full-colour photograph |
| Key to conservation status | <p>The IUCN Red List</p> <p>DD = Data Deficient EN = Endangered LC = Least Concern NE = Not Evaluated NT = Near Threatened VU = Vulnerable</p> | |

1 Photo by Ian Cooper (with permission)

- 1 *Ansonia longidigitis* Inger, 1960
- 2 Long-fingered Slender Toad, SVL to 65 mm
- 3 *Ansonia spinulifer* (Mocquard, 1890)
- 4 Spiny Slender Frog, SVL to 45 mm
- 5 *Duttaphrynus melanostictus* (Schneider, 1799)
- 6 Common Asian Toad, SVL to 115 mm
- 7 *Togorophrynus divergens* (Peters, 1871)
- 8 Crested Toad, SVL to 55 mm



- 9 *Pelophryne sarawacensis* Inger & Stuebing, 2009
- 10 Sarawak Dwarf Toad, SVL to 22 mm
- 6 *Pelophryne signata* (Boulenger, 1894)
- 1 Short-legged Dwarf Toad, SVL to 17.6 mm
- 7 *Phrynosidix asper* (Gravenhorst, 1829)
- 11 River Toad, SVL to 180 mm
- 8 *Phrynosidix juxtasper* (Inger, 1964)
- 12 Giant River Toad, SVL to 215 mm
- 9 *Rhentapia hosii* (Boulenger, 1892)
- 13 Brown Tree Toad, SVL to 105 mm



Family CERATOBATRACHIDAE

- 1 *Alicular baluensis* (Boulenger, 1896)
- 2 Dwarf Mountain Frog, SVL to 40 mm



Family DICROGLOSSIDAE

True Frogs I

- 1 *Fejervarya limnocharis* (Gravenhorst, 1829)
- 2 Grass Frog, SVL to 60 mm
- 3 *Limnonectes conspiciellatus* (Günther, 1872)
- 4 Rivulet Frog, SVL to 74 mm
- 5 *Limnonectes ingeri* (Kiew, 1978)
- 6 Greater Swamp Frog, SVL to 132 mm
- 7 *Limnonectes kuhlii* (Tschudi, 1838)
- 8 Kuhl's Creek Frog, SVL to 69 mm



Family DICROGLOSSIDAE

True Frogs I

- 9 *Limnonectes leporinus* (Andersson, 1923)
- 10 Giant River Frog, SVL to 180 mm
- 11 *Limnonectes malesianus* (Kiew, 1984)
- 12 Malaysian River Frog, SVL to 150 mm
- 13 *Limnonectes palawanensis* (Boulenger, 1894)
- 14 Smooth Guardian Frog, SVL to 40 mm
- 15 *Limnonectes paramacrodon* (Inger, 1966)
- 16 Masked Frog, SVL to 75 mm
- 17 *Occidozyga haluensis* (Boulenger, 1896)
- 18 Seep Frog, SVL to 35 mm
- 19 *Occidozyga laevis* (Günther, 1859)
- 20 Yellow-bellied Puddle Frog, SVL to 48 mm



Family MEGOPHYRIDAE

Litter Frogs

- 1 *Leptobrachella jalandringi* Eto, Matsui & Nishikawa, 2015
- 2 Dring's Dwarf Litter Frog, SVL to 19 mm
- 3 *Leptobrachium abbotti* (Cochran, 1926)
- 4 Lowland Litter Frog, SVL to 95 mm
- 5 *Leptolalax gracilis* (Günther, 1872)
- 6 Sarawak Slender Litter Frog, SVL to 50 mm
- 4 *Megophrys nasuta* (Schlegel, 1858)
- 6 Bornean Horned Toad, SVL > 125 mm



Family MICROHYLIDAE

Narrow-mouthed Frogs

- 1 *Chaperina fusca* Mocquard, 1892
- 2 Saffron-bellied Frog, SVL to 26 mm
- 3 *Kalophrynus heterochirus* (Boulenger, 1900)
- 4 Variable Sticky Frog, SVL to 33 mm.
- 5 *Kalophrynus intermedius* Inger, 1966
- 6 Intermediate Sticky Frog, SVL to 41 mm
- 4 *Kalophrynus meizon* Zug, 2015
- 6 Bornean Sticky Frog, SVL to 60 mm



Family MICROHYLIDAE

Narrow-mouthed Frogs

- 5 *Metaphrynella sundana* (Peters, 1867)
- 1A Bornean Tree Hole Frog, SVL to 25 mm
- 6 *Microhyla malang* Matsui, 2011
- 1C Bornean Narrow-mouthed Frog, SVL to 23 mm
- 7 *Microhyla perparva* Inger and Frogner, 1979
- 8 Least Narrow-mouthed Frog, Size to 15 mm
- 9 *Microhyla petrigera* Inger and Frogner, 1979
- Pot-hole Narrow-mouth Frog, Size to 18 mm



Family RANIDAE

True Frogs II

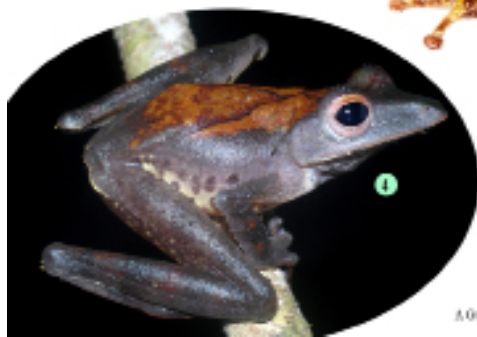
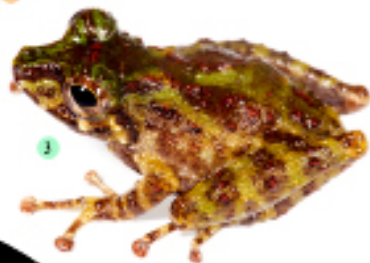
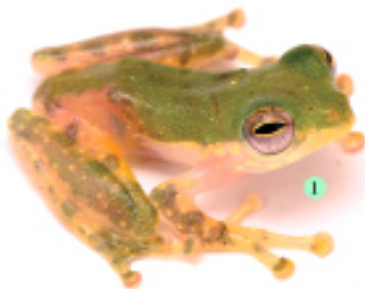
- 1 *Aboronana lactea* (Peters, 1871)
- 1A Mahogany Frog, SVL to 60 mm
- 7 *Chalcorana ruficeps* (Peters, 1871)
- 1C White-lipped Frog, SVL to 60 mm
- 5 *Hylarana erythraea* (Schlegel, 1827)
- 1E Green Paddy Frog, SVL to 75 mm
- 4 *Odorrana bassii* (Boulenger, 1891)
- 1C Poisonous Rock Frog, SVL to 100 mm



- 5 *Pulchrana barwonica* (Boettger, 1901)
- 1A Brown Marsh Frog, SVL to 67 mm
- 6 *Pulchrana glandulosa* (Boulenger, 1882)
- 1C Rough-sided Frog, SVL to 93 mm
- 7 *Pulchrana picturata* (Boulenger, 1920)
- 1E Spotted Stream Frog, SVL to 68 mm
- 8 *Pulchrana signata* (Günther, 1872)
- 1G Striped Stream Frog, SVL to 68 mm
- 9 *Stauris guttata* (Günther, 1858)
- 1C Black-spotted Rock Frog, SVL to 55 mm



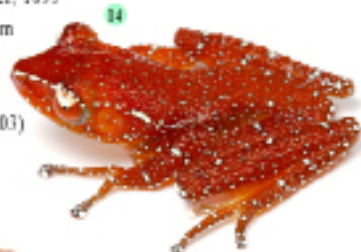
- 1 *Feihyla kajan* (Dring, 1984)
- 2 White-eared Tree Frog, SVL to 23 mm
- 3 *Kanizula appendiculata* (Günther, 1859)
- 1C Frilled Tree Frog, SVL to 50 mm
- 5 *Philautus tectus* Dring, 1987
- 2 Obscure Bush Frog, SVL to 27 mm
- 4 *Polypedates colletti* (Boulenger, 1890)
- 1C Collett's Tree Frog, SVL to 78 mm



- 5 *Polypedates leucomystax* (Gravenhorst, 1829)
- 13 Four-lined Tree Frog, SVL to 75 mm
- 6 *Polypedates macrotis* (Boulenger, 1891)
- 12 Dark-eared Tree Frog, SVL to 90 mm
- 7 *Polypedates otitophus* (Boulenger, 1893)
- 12 File-eared Tree Frog, SVL to 97 mm
- 8 *Rhacophorus dalitensis* Boulenger, 1892
- 10 Jade Tree Frog, SVL to 50 mm
- 9 *Rhacophorus fasciatus* Boulenger, 1895
- 10 Banded Tree Frog, SVL to 55 mm



- 10 *Rhacophorus karrissoni* Inger & Ilaile, 1959
- 10 Brown Tree Frog, SVL to 70 mm
- 11 *Rhacophorus nigropalmatus* Boulenger, 1895
- 12 Wallace's Flying Frog, SVL to 100 mm
- 12 *Rhacophorus pardalis* Günther, 1859
- 12 Harlequin Tree Frog, SVL 75 mm
- 13 *Tiboloderna horridum* (Boulenger, 1903)
- 12 Warty Tree Frog, SVL to 49 mm
- 14 *Tiboloderna pictum* (Peters, 1871)
- 10 Cinnamon Frog, SVL to 35 mm



Foremost, we record here our appreciation for the interest in the International Bornean Frog Race shown by Datu Ikh Pahon anak Jopik, Permanent Secretary at the Ministry of Tourism Sarawak, and for the generous support received from his Ministry.

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The International Bornean Frog Race 2016

- The welfare of frogs is primary to the goals and objectives of the Race. The following rules were formulated to ensure that no frogs are harmed during the event.
- The Race is open to all physically fit persons. However, the general public can attend the exhibition and talks.
- All participants have to register online in order to obtain an official entry to the Frog Race.
- The Frog Race will start with flag-off at 7:00 pm and end at 9:00 pm, on 30 April 2016. All Race participants are required to submit their images to the Image Receiving desk at Lambir HQ by 9PM.
- Race participants will have to wear the official Frog Race 2016 T-shirt, and wear numbered arm-bands (both supplied by the organisers to registered participants).
- Participants should make every attempt not to disturb amphibians, such as placing strong light sources too close to the eyes of frogs. Such behaviour causes stress to frogs, and may cause temporary or permanent damage to their eyesight and in addition, lead to stressed frogs being photographed. Images showing such frogs will not be accepted for the competition by our judges
- One winner will be chosen for the following two categories:
 - Most number of amphibian species found, and
 - Rarest amphibian found
- Three winners will be chosen for the best amphibian (including frogs, toads, caecilians and tadpoles or larval amphibians) photos (in DSLR, compact camera & mobile phone). In this category, each participant is eligible to enter only one category (DSLR, compact camera & mobile phone). For compact camera & mobile phone categories, only one winner will be chosen.
- Participants must submit their results at 9:00 pm. Late submissions will be disqualified.
- The judges' decision on each photo contest category is final.
- Race participants are allowed to take photos only along the pre-designated trail at Lambir Hills. Volunteers along the trail will ensure both the safety of the Race participants and of the frogs. Excess disturbance (e.g., usage of flashes beyond acceptable quantum, currently put at three; handling of frogs or destruction of vegetation and other habitats) will be noted for transmission to the judges.
- All participants will receive a certificate of participation from the organisers.
- Registration fees are required to participate in the Race, payable in cash or online payment system. Payment is non-refundable.

*Please refer to Registration Form.

Do's and Don'ts of the International Bornean Frog Race 2016

| Do's | Don'ts |
|----------------------------------|---------------------------------------|
| Leave footprints, not litter | Harm frogs, or any other wildlife |
| Bring a flashlight or a headlamp | Disturb vegetation and other habitats |
| Bring a raincoat | Stray from the main trail |
| Bring enough drinking water | Make unnecessary noise |

The International Bornean Frog Race 2016 Judging Criteria

- Most number of amphibian species found**
(the winner of this category will be the participant who photographically documents the most number of amphibian species)
- Rarest amphibian found**
(the winner of this category will be the participant who photographs the rarest amphibian, as determined by the judges)
- Best amphibian photo taken**
(For DSLR camera, three winners will be judged according to the following criteria below. Only one entry per participant allowed. For compact camera and mobile phone categories, only one winner will be chosen).

"Best Photo" Judging Criteria

- How technically correct is the photo? (20 marks)**
Are the following the best they can be? Focus, sharpness, detail, depth of field, colour, brightness, contrast, saturation, usage of light.
- Subject matter/ Content (20 marks)**
How well does it fall within the Bornean Frog Race objectives?
- Creativity (20 marks)**
Is the frog shot from an unusual and attractive perspective?
- Composition (20 marks)**
Where does our eye lead to in the photograph?
Is it creating the visual impact it should?
- Do I like this photograph? (20 marks)**
Total score: 100 marks



THE INSTITUTE OF BIODIVERSITY AND ENVIRONMENTAL CONSERVATION, within Universiti Malaysia Sarawak, was set up in 1994 as one of the founding institutions within the university, with the purpose of promoting research in two niche areas- tropical biodiversity and environmental conservation. Its teaching and research programmes are structured at the masters, doctoral and postdoctoral levels.

SARAWAK FORESTRY has been established by the Sarawak State Government to position Sarawak at the forefront of sustainable forest management and conservation, as outlined in the Sarawak Forestry Corporation Ordinance, approved by the State Legislative Assembly in 1995. SARAWAK FORESTRY's functions are governed by four major ordinances, namely the Sarawak Forestry Corporation Ordinance, 1995; the Forest Ordinance, 1998; the National Park and Nature Reserve Ordinance, 1998; and the Wild Life Protection Ordinance, 1998.



**The 5th International
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