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Herpetology 2024: Which Snake?



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This is the fifth and last part of a series of articles describing herpetological species and field excursions possible for participants of the 10th World Congress of Herpetology, to be held in Kuching, Sarawak, Borneo in 2024. In this instalment, Borneo's amazing snake fauna is introduced, along with suggestions for first-time visitors to the island in search of snakes and other herps.

We round up Borneo's amazing herpetofauna with arguably its most diverse component- the snakes. With a total of 163 species described from the island, 43, or just over a quarter of which are endemic to the island or occupy adjacent islands off the coast, there's a lot to excite delegates to the 10th World Congress of Herpetology.

Being based in Kuching, the capital of Sarawak State, during the 10th World Congress of Herpetology in 2024, participants will be spoilt for choice regarding field sites for encounters with snakes, be it a short trip between sessions, at night, after the end of the day at the Borneo Convention Centre, or longish trips before or after the Congress. We shall describe some options, based on proximity to our town.

Sarawak and Borneo are home to the heaviest (159 kilo) snake, the Reticulated Python, *Malayopython reticulatus*, and the lightest (0.12 gm) one, the Brahminy Blind Snake, *Indotyphlops braminus*. In terms of ecological types, about a tenth of the fauna

is marine, comprising mostly sea snakes, although a few representatives of otherwise freshwater groups regularly invade freshwater environments, and one 'sea snake', *Hydrophis sibauensis* has been noted nearly a thousand kilometres from the river mouth.

Within the city limits, the best option for finding snakes is the Sama Jaya Nature Reserve, in the southwestern suburbs of Kuching, under 30 minutes from the Convention Centre. As a recreation spot, it has jogger tracks around a patch of forest that includes both blackwater habitats and Bornean heath ('Kerangas') forests. Given its modest (38 hectare) size, the fauna is, predictable, not rich but includes *Rhabdophis conspicillatus* (unusual amongst member of the genus without venom or nuchal glands), *Hebius petersi* and *Bungarus flaviceps*. The Reserve is surrounded by residential areas, and more than a single domestic cats have fallen prey to Reticulated Python, that lurks the city sewers.

*Malayopython reticulatus*

Visits slightly further afield, such as to Kubah National Park (and the adjacent Matang Wildlife Centre) are more productive for snakes. Complete inventories are not available for the snake fauna, but several snakes that are high on your life list have been recorded, including *Gonyophis margaritatus* and *Anomochilus* species. A visitor with more limited time in hand can hope to see the more abundant *Ahaetulla prasina* (remarkable among snakes in showing dramatic colour change with growth- juveniles being tan or yellow, while adults are a pleasant shade of pale green)- look for sleeping individuals on the patch of fern along the roadside, especially near the Frog Pond. One of the batrachological highlights of the Park being one of the region's smallest frog, *Microhyla nepenthicola*, which breeds exclusively in-

side the pitchers of *Nepenthes ampullaria*. Here, in *Nepenthes* clusters (and sometimes, even within the pitchers) hides the Rough-backed Litter Snake, *Xenodermus javanicus*, sometimes called 'Dragon Snake'. The 'Frog Pond' of Kubah, famous for its anuran amphibians (and the occasional caecilian), also attracts snake predators, chiefly, species of cat snakes, *Boiga jaspidea* and *Boiga cynodon*, and the Keeled Rat Snake, *Ptyas carinata*. At this site, we also photographed a Sumatran Pit-viper, *Trimeresurus sumatranus* being swallowed by a Mangrove Cat Snake, *Boiga melanota*. Several other snakes can be encountered on walks along the tarred road to the summit, by day or night, including the King Cobra, *Ophiophagus hannah* and the Coral Snakes, *Calliophis bivirgatus* and *Calliophis intestinalis*.





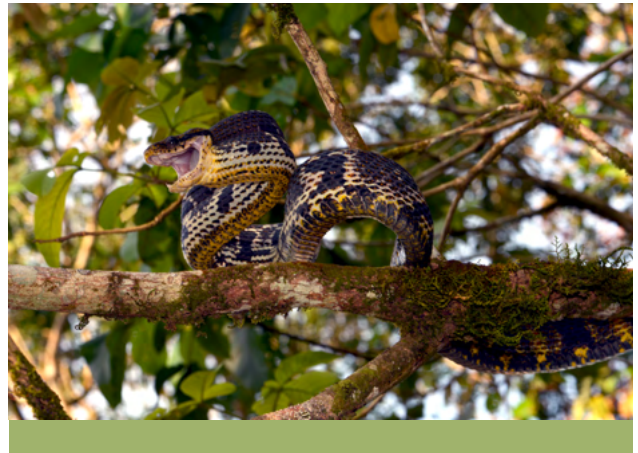
Anomochilus monticola



Xenodermus javanicus



Boiga jaspidea



Boiga cynodon



Trimeresurus sumatranus



Calliophis bivirgatus



Calliophis intestinalis

It is here that Veronica conducted a field study of the Bornean Green Pit-viper, *Tropidolaemus subannulatus*, using radio-telemetry. She found individuals have relatively small home ranges of under 200 sq m, except for an adult female that demonstrated a home range size of 834 sq m. Additionally, they were recorded to use only 1–4 trees during these studies, presumably restricting movements to those with interlocking canopies. However, vertical movements may be more significant, and one individual was even observed at the top of the canopy, at an approximate height of over 10 m (where it made a lunge at a passing bat!).

One of the 'must-visit' places for the avid ecotourist in Kuching is the Semenggoh Nature Reserve, situated about an hour's drive from town. The main quarry here is the Orangutan, *Pongo pygmaeus*, a reintroduced population of which is fed a couple of times daily. The Reserve itself is set on marshy and hilly ground, and a number of snakes can be encountered by day, such as *Psammodynastes pictus*, *Sibynophis melanocephalus* and *Xenochrophis maculatus*. A note of caution: the antics of the primates make herpetological observations a challenge at Semenggoh!



Tropidolaemus subannulatus male and female



Psammodynastes pictus



Sibynophis melanocephalus

Famous for its blackwater swamps, the Kuching region and its vicinity, especially the township of Serian has its share of aquatic snakes. The most famous among them must be the Elephant Trunk Snake, *Acrochordus javanicus*, a bizarre swamp-dweller that, like its namesake, looks like a dismembered trunk of a pachyderm. The rough skin is supposedly adaptive for gripping slippery eels, their dietary mainstay, and the wrinkles are thought to allow greater stretches, as it hunts in ambush underwater. These are occasionally offered for sale for food in native markets, as a replacement for pythons that are on the protected animals list.

Another 'to-go' site is the karst area around the town of Bau, an early mining site to the southwest of Kuching. Of the several protected areas, the Wind and Fairy Caves need to be on every herpetologists' bucket list, the snake highlight being the Cave Racer, *Elaphe taeniura*. Occupying the dark and twilight zones of caves, they specialize in hunting both bats and cave swiftlets.

For those with more time in hand, a visit to Gunung Mulu National Park is a must. Indeed, our guests to the Congress are recommended to book a week's stay after the event, to immerse in the magnificent landscape of Mulu. While a trek to the summit (2,376 m asl) or to the limestone pinnacles of Api requires more than a modest level of fitness (and training), a large number of herpetological species may be encountered in the lowlands. This includes the Park Headquarters and around lodgings, making even a short visit to the Park a well-worth venture.

*Acrochordus javanicus**Garthius chaseni**Rhabdophis murudensis*

A total of 108 species of amphibians and 104 reptiles are known from this nearly 530 square kilometres Park, comparable to the fauna of several large countries. A total of 46 snakes are now known from Mulu, including *Garthius chaseni*, *Rhabdophis murudensis* and *Asthenodipsas jambilinaisi*, species once thought to be endemic to Sabah's Gunung Kinabalu.

For the information of Congress participants, antivenom serum is kept at both the General Hospitals of Kuching and Miri, the Thai polyvalent serum being used for envenomation resulting from the bites of venomous land snakes across Sarawak and Sabah.



Gonyosoma oxycephalum

We welcome visitors
to the Congress,
and will be at hand to advice
our guests
on local travel
to see its amazing
herpetofauna
and much more that the
State of Sarawak has to offer.



Coelognathus flavolineatus



Aplopeltura boa



Asthenopidsas borneensis



Boiga drapiezii



Chrysopelea paradisi



Cylindrophis lineatus



Dendrelaphis caudolineatus



Homalopsis buccata



Oligodon octolineatus



Oligodon signatus



Ophiophagus bungarus



Pareas nuchalis



Pseudorabdion sarawacensis



Ptyas fusca



Xenelaphis hexagonotus



Xenochrophis trianguligerus



Xenopeltis unicolor