

NOTES ON SOME FROGS OBSERVED IN WEST MALAYSIA

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From October 3-9, 1985 I photographed and observed frogs in and around the University of Malaya's Field Study Centre at Gombak. The area consists of lowland rain forest situated about 15 miles north of Kuala Lumpur, between the old road to the Genting Highlands and the new East — West Highway. Apart from primary forest, disturbed habitats are present alongside the old road, and a small river, the Sungai Gombak, and numerous small tributaries run through the area providing a number of distant habitats. Generally speaking, the rain forests of South-east Asia are poor in species compared with similar areas in Central and South America, but since several of the species observed will be unfamiliar, I feel that this note may be of some interest.

No specimens were taken (with the exception of some eggs — see below) and all identifications were made in the field using P.Y. Berry's 'The Amphibian Fauna of Peninsular Malaysia' — unfortunately, this proved inadequate when dealing with some of the small ranids and some of the identifications are therefore tentative: these species are asterisked in the following list.

Pelobatidae

Megophrys nasuta. This spectacular toad is an inhabitant of primary forest and is a classic and well-known example of disruptive camouflage. Three males were found, calling alongside a small forest stream. Calling begins at dusk, but only if rain has fallen, and continues sporadically for several hours, individuals spacing themselves at a distance of 20 metres or more.

Bufoidea

Bufo asper. Four of these large toads were seen. With the exception of one juvenile, all were found several feet above the ground: one on a large rock near the river; one on a palm frond and one on a tree-trunk. No calling was heard.

Bufo melanostictus. Heard calling in a pool alongside the old road. This common species is rarely found in natural habitats.

Bufo parvus. Several of these small toads were seen on the forest floor. In a small marsh near the old road, three males were calling from concealed places, e.g. beneath dead leaves. One of these was in amplexus with a female a little later.

Ranidae

Amolops larutensis. This species is adapted to living in torrents and waterfalls. The adults and juveniles have expanded discs on their digits and cling to wet rocks above the water; the tadpoles have an adhesive abdominal disc and graze algae just above and below the waterline of large boulders in mid-stream. All stages (tadpoles, juveniles and adults) were common along the Sungai Gombak.

Rana erythraea. A very common species in disturbed habitats. Numerous calling males were in the pool alongside the old road.

Rana hosii. Common alongside the river. One individual was found at night resting in a hollow tree-trunk several feet above the ground.

Rana doriae. A streamside species. Two 'phases' were seen, one with a broad cream vertebral stripe and one without.

*Rana laticeps**. A single male was seen, calling from a rock bordering a small stream which flowed beneath old road.

*Rana nitida**. Several males and females were seen in the marshy area near the old road.

Rana plicatella. A male and several females* were seen in the marshy area alongside the old road. Males of this species are remarkable for the bony knob protruding from their skull just behind the eyes. Its function seems to be a mystery. (See also note.)

Rhacophoridae

Polypedates (= *Rhacophorus*) *leucomystax*. Numerous in the pool alongside the old road: another species which appears to favour disturbed habitats.

Microhylidae

Kalophrynus pleurostigma. A single female was found under a dead leaf in a thicket of low shrubs. Many other toads, presumed to be of this species, were calling here and in similar situations elsewhere but were never tracked down despite many attempts. It seems that they call from hidden places, possibly burrows, and may spawn there also as water was not present in these localities.

Microhyla berdmorei. A single specimen was found in the toilet block of the field station. This is probably not its natural habitat.

Microhyla butleri. Numerous, but difficult to locate from its calls, in grassy roadside puddles alongside the old road, especially near the pool.

Microhyla heymonsi. Found with *M. butleri* but not so numerous and even more difficult to locate.

Note: In the marsh near the old road, several small (walnut sized) crater-like depressions were found in the mud, invariably under dead vegetation. In one of these a frog (possibly *Rana plicatella*) was disturbed but leapt away before it could be identified. Several others contained small quantities of spawn (about 20 eggs each). Some, which were beginning to disintegrate, contained newly hatched tadpoles. Two batches of eggs were collected and are being reared for positive identification. At present, a total of ten frogs have metamorphosed at a miniscule size.

Frogs observed in other areas of the peninsular

Pelobatidae

Leptobranchium hasselti. A single specimen of this strange orange-eyed spadefoot was found in an oil-palm plantation in Kelantan.

Megophrys longipes. A single calling male was found in a forest clearing in the Cameron Highlands, altitude approximately 5,000 feet. This species is believed to deposit spawn on moss etc. and the larvae undergo direct development. This ties in with the location of this breeding individual, where there was no free-standing water.

Bufoidea

Bufo melanostictus. Ubiquitous throughout the peninsular (and on Samosir Island, Sumatra), but only around human disturbance.

Ranidae

Amblops larutensis. Also found in the Cameron Highlands near a high waterfall.

Rana glandulosa. Numerous on the roads which crossed paddy fields along the east coast.

Rana hosii. Several were seen by day along a stream draining from Lake Cini.

Rana macrodon. A large specimen was found at night on the road below Tanah Rata, Cameron Highlands.

Rhacophoridae

Polypedates leucomystax. Ubiquitous, especially around disturbed habitats. A pair were found spawning above a concrete water tank (this is a foam-nest builder) very early one morning, near the Thai border, and remains of foam nests were found in several other similar situations elsewhere.

Rhacophorus bimaculatus. Several males and a female were found at night on the road below Tanah Rata, Cameron Highlands.

Microhylidae

Kaloula pulchra. One specimen found in a gutter in the town of Temerloh, many were calling vociferously beneath the 'rest' house near Jeli, and several were calling near a pool in the University of Malaya campus, Kuala Lumpur.

REFERENCE

Berry, P.Y. (1975). *The Amphibian Fauna of Peninsular Malaysia*. Tropical Press, Kuala Lumpur.