

Rapid colour change in the Malayan Flying Frog *Rhacophorus prominanus* at Fraser's Hill, Peninsular Malaysia

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Photographs by: Melissa Reid.

Subjects identified by: Marcus Lee.

Location: Road near Bishop Trail, Fraser's Hill, Pahang, Peninsular Malaysia.

(Lat 3° 42.95'N Long 101° 44.28' E)

Elevation: Around 1200 metres.

Habitat: Primary, lower montane forest.

Date and time: 18 January 2017, 22:00 hrs.

Identity of subject: Malayan Flying Frog, *Rhacophorus prominanus* (Amphibia: Anura: Rhacophoridae).

Description of record: A single adult *Rhacophorus prominanus*, with an estimated snout-vent length of 65 mm, was observed hopping along a road during heavy rain (Fig. 1). During the observation it rapidly underwent a colour change, taking less than 5 seconds to fully change from a bright green dorsal colouration to a dark green-brown colour (Fig. 2). The subject was not touched by the observers.



Fig. 1.

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Fig. 2.

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Remarks: The extensive webbing on all the fingers and toes of this frog identify it as a rhacophorid. The characteristic brown speckles on the dorsum and vivid red webbing between the 3rd and 4th toes confirms the identity as *Rhacophorus prominanus*.

Colour change in frogs has been extensively studied in the closely related family Hylidae and it has been shown that they possess the ability to, at least in part, match their background (Kang et al. 2016). This phenomenon appears to be poorly documented in the *Rhacophorus* genus. A closely related species, *Rhacophorus lateralis*, has been noted to change colour and it is suggested to be the result of stress (Molur & Molur, 2010). This would explain the speed of the colour shift as a potential predator deterrence, either by increasing the contrast of the blue groin in a bid to be aposematic, or as a rapid attempt to become more cryptic. The subject would most likely have felt stressed either because of the close proximity of the observers or because of the flashlights, or a combination of both factors.

References:

Kang, C., Kim, Y. E., & Jang, Y. (2016). Colour and pattern change against visually heterogeneous backgrounds in the tree frog *Hyla japonica*. *Scientific Reports*. 6, 22601; doi: 10.1038/srep22601.

Molur, S. & Molur, P. (2010) "Rhacophorus lateralis in Madikeri, Kodagu, Karnataka" *Frogleg* (Newsletter of the Amphibian Network of South Asia and Amphibian Specialist Group South Asia). 14: 6–7.