

THERMOREGULATION, PREDATORY STRIKE AND ACTIVITY OF THE BORNEAN KEELED PIT VIPER, *TROPIDOLAEMUS SUBANNULATUS*



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Body temperature of ectotherms depend primarily on heat absorbed from the environment through thermoregulation, which may be through heat absorbed from environment (habitat selection), via radiation, conduction, and convection. Given the significant sexual size dimorphism shown by the Bornean keeled pit-viper (*Tropidolaemus subannulatus*), aspects of life history such as reproduction, movement, growth, behaviour, etc, are expected to differ. In this project, we tested the effect of sex and size on foraging behaviour in captivity and thermoregulation, movement and habitat use in two free-ranging populations. This study is being conducted at Kubah National Park since May 2018. Laboratory experiments have used videography techniques, to understand sequence of behaviour involved in predation through the preparation of ethograms. Field studies will utilise radio-telemetry and temperature data logger implanted in the snakes. A total of 12 (sex ratio: 6:6) vipers will be tested, of which till date, half this number have been processed. The target species is arboreal, and all individuals found perched on some type of vegetation, a majority being on narrow tree branches, ca. 0.32–4.5m above ground. Behavioural studies focussed on feeding behaviour have been ongoing in the lab. Feeding action was recorded with on Sony HD handycam video recorder and will be analysed. The field was a 50 x 50 mm square grid, placed within a 900 x 450 x 450 mm glass tank. The lab mouse is used as prey, and feeding experiments are initially attempted monthly for all individual snakes, till the discovery from the feeding record of interest in prey once every 2–5 months. Sequences being recorded include prey perception, movement to position body prior to strike, predatory strike, prey immobilisation, prey ingestion till the passage of food bolus is no longer discernable in the first third of the snake's body. The next phase of the project will be implanting radio transmitters on snakes before release at the point of initial encounter and monitoring of their activities. It is expected that the new knowledge gained on their behaviour and habitat use will not only assist in broadening our appreciation of a till now neglected aspect of our biodiversity and assist conservation efforts, but also help laypeople avoid encounters with this venomous species.

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Video set-up used to record predatory strike and prey processing behaviour.