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**Determination of Micro-Habitat Preference of *Adenomus kelaartii* (Amphibia: Bufonidae) in and around Thotaha Stream, Yagirala Forest Reserve, Sri Lanka**

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**Abstract**

Habitat preference of *Adenomus kelaartii* which is an endemic species of Sri Lanka was studied at Thotaha stream in Yagirala Forest Reserve in the low country wet zone from July to September 2014. Nine 3×3 m<sup>2</sup> quadrates were randomly placed in the stream habitat including stream banks and rocky areas in the stream. Eight 3×3 m<sup>2</sup> quadrates were randomly placed in the stream adjacent forest habitat 30 m away from the stream. The quadrates were considered as “occupied” if at least one *A. kelaartii* was found using them. Microhabitat variables including the ambient temperature, relative humidity, substrate relative moisture, silt/clay substrate availability, rocks covered with mosses and canopy cover were recorded in each quadrate. Sampling was conducted once a month from 17:30 to 21:30 hrs. In order to compare individual habitat variables between occupied and non-occupied quadrates, non-parametric Mann-Whitney U-test ( $\alpha=0.05$ ) was used. The results revealed that the micro-habitat conditions such as ambient temperature, relative humidity, substrate relative moisture, silt/clay substrate availability, rocks covered with mosses and canopy cover were the factors determining micro habitat suitability for *A. kelaartii*. A sex based preference for refuges was also observed in *A. kelaartii*. The males showed a higher preference for cervices while the females preferred rock cervices and spaces between boulders. Juveniles preferred holes in decaying logs and spaces in cracked tree barks.

**Keywords:** Micro-habitat variables, *Adenomus kelaartii*, Amphibian conservation