

**HABITAT PREFERENCES OF OTOCRYPTIS WEIGMANNI WAGLER, 1830
(REPTILIA: AGAMIDAE) IN A TROPICAL RAINFOREST, SRI LANKA**

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ABSTRACT

Habitat preferences of *Otocryptis weigmanni*, a widely distributed endemic agamid lizard in wet zone of Sri Lanka was studied from January to December, 2014 in the Yagirala forest reserve, which is a tropical rainforest in Sri Lanka. Visual encounter surveys were done along three 200m linear transects distributed across three habitat types, namely natural forest habitat, degraded forest habitat and riverine forest habitat. Ambient temperature, relative humidity, canopy cover and leaf litter moisture content were measured in each transect. Body surface temperature and perch surface temperature of the lizards recorded along transects were measured using an UV thermometer. If present, leaf litter depth and leaf litter moisture content were measured where lizards were sighted. Perch types of lizards were recorded as ground, rock, leaf litter, tree base, tree trunk, tree branch, tree leaf and moss. Perch light to lizard's location was categorized as full sunlight, filtered sunlight and shade. Population density was highest in degraded forest habitat with 0.027 ± 0.020 lizards/m² and lowest in natural forest habitat with 0.007 ± 0.006 lizards/m². The low canopy cover in the degraded forests allowed sunlight to reach forest floor which offered better basking places for the lizards which may have contributed to increase in their numbers in the degraded forests. Ambient temperature, perch surface temperature, relative humidity and litter depth of microhabitats preferred by the species ranged from 26.10 °C to 33.30 °C, 24.10 °C to 34.0 °C, 46.80% to 97.80% and 2.0 cm to 7.0cm respectively. *O. wiegmanni* preferred microhabitats with leaf litter moisture content were around $13.82 \pm 3.54\%$ (Mean \pm SD). *O. wiegmanni* perched in full sunlight in a higher percentage of 66.8%. A lowest percentage 2.9% of *O. wiegmanni* perched in shades. Highest and the lowest mean number of encounters of 41.0 ± 25.41 (Mean \pm SD) and 0.5 ± 10 (Mean \pm SD) were recorded on leaf litter and on moss respectively. *O. wiegmanni* may use leaf litter as its primary substrate to hide in order to reduce predator pressure and to find food. Body surface temperature of *O. wiegmanni* ranged from 30.00 °C to 35.64°C and a significant positive relationship ($p < 0.05$, $r = 0.913$) between ambient temperature and body surface temperature was observed. The present study recorded important baseline data on habitat preferences of *O. wiegmanni*, therefore, contributed to effective conservation and management planning.

Keywords: Microhabitat, Tropical rainforest, *Otocryptis weigmanni*