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Comparative Assessment of Amphibian Abnormalities Associated with the Lentic Water Bodies of Montane Forests**Silva P.* , Mahaulpatha W.A.D.**

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Abstract

Amphibian abnormalities are good ecological screening tool to assess the ecosystem health. Abnormalities are governed by both biotic and abiotic factors. Since most of the worldwide abnormality studies have been focused on laboratory studies rather than field surveys, the actual threat of amphibians can't be determined. Amphibian abnormalities were studied in three lentic water bodies of Horton Plains National Park (HPNP) and two lentic bodies outside the park (OHPNP) from January 2017 to November 2017 for three consecutive days per month. Abnormalities were identified through gross visual inspections, utilizing six quadrates of 1×2 m in each sampling site with the purpose of providing precise information to support conservation and management of amphibians. A total of 694 amphibians belonging to 4 families and 11 species were recorded during the study in the five lentic water bodies studied. 511 individuals were examined inside the HPNP and 183 individuals were examined outside the HPNP. Out of the 183 individuals examined outside the HPNP, 148 (81%) had abnormalities. Of the 511 amphibians within the HPNP, 0.59% suffered from ectromelia and 3.91% had cysts. Of the 183 amphibians examined outside the HPNP, 80.33% had cysts and 0.55% had femoral projections. Cysts accounted for most of the abnormalities in both environments. Most of the abnormalities were observed in hind limbs of amphibians in both locality types. Inside the HPNP hindlimb abnormalities accounted for 91.3% and OHPNP they accounted for 100% of the abnormalities. Forelimb abnormalities were recorded only inside the HPNP. These accounted for 8.7% of the abnormalities. Abnormalities in the abdominal region accounted for 4.35% of abnormalities. 100% of the endangered amphibians found OHPNP had abnormalities. Inside the HPNP only 4.55% of the endangered amphibians had abnormalities. 3.57% of amphibians categorized under the least concerned status had abnormalities. Extensive further studies are warranted to find out the reasons for these abnormalities observed.

Keywords: Abnormalities, Amphibians, Horton Plains National Park