



Prevalence of Haemoparasites and Their Impact on Haematological Parameters of Dogs in Selected Sites in Matara District, Sri Lanka

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Canine vector-borne diseases are a significant health concern in tropical regions, with domestic dogs serving as both hosts and reservoirs for various haemoparasitic infections. This study aimed to evaluate the prevalence of haemoparasites and assess their impact on hematological parameters of dogs. A total of 117 dogs presented to veterinary clinics in Matara town, Dickwella, Hakmana, and Akuressa were included in the study. Peripheral blood samples were collected and analyzed for red blood cell (RBC), white blood cell (WBC), and platelet counts using standard hemocytometer methods. Blood smears and buffy coat preparations were stained with Giemsa for microscopic detection of haemoparasites, while microfilariae were identified using a modified Knott's test. Results showed a marked decrease in RBC counts ($2.85 \times 10^6/\mu\text{L}$) and significant elevations in WBC ($72.33 \times 10^3/\mu\text{L}$, $p > 0.05$) and platelet counts ($9114.11 \times 10^3/\mu\text{L}$), indicating strong inflammatory and immune responses. Haemoparasite analysis revealed that nematode parasites, *Dirofilaria* spp. (38.72%; $n=3095$) and unidentified microfilariae (21.03%; $n=1681$), were the most prevalent and cause dirofilariasis in dogs. Protozoan parasites such as *Babesia* spp. (36.93%; $n=2954$) and *Hepatozoon* spp. (2.24%; $n=179$) that cause destruction of RBC were moderately common. Among the dogs examined, 81 were infected with at least one haemoparasite, with single infections predominating (42.24%) and multiple infections being rare.

Keywords: Babesia, Dirofilaria, Hepatozoon, Vector-borne diseases