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CANINE VECTOR BORNE DISEASES OF WORKING MILITARY DOGS OF SRI LANKA AIR FORCE, FREE-ROAMING AND PRIVATELY OWNED DOGS

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Canine Vector-Borne Diseases (CVBDs) are a major health problem among dogs, globally. An island-wide study examined the prevalence of CVBDs in military working dogs in the Sri Lanka Air Force (SLAF), in free-roaming and in privately owned dogs. Blood samples from 668 dogs were collected from the tip of the dog's ear from July 2016 to July 2019. Thin blood smears prepared and fixed in methanol were stained in Giemsa, and observed under light microscopy. Out of the sampled dogs, 173 were from 19 SLAF establishments (30 with clinical signs), 115 healthy free-roaming and 90 privately owned dogs living in close proximity to SLAF establishments, 90 free-roaming and 200 privately owned dogs that were taken to different veterinary clinics. Overall, 169 (25.3%) dogs were infected with blood parasites. Prevalence of CVBD in dogs from SLAF, free-roaming and privately owned dogs were 22.5%, 26.3% and 26.5%, respectively. There was no difference in the prevalence between male (23.6%) and female (26.4%) dogs or between SLAF dogs (22.5%) and other dogs (26.2% $\chi^2 = 0.93$, $p = 0.33$). However, fewer asymptomatic SLAF dogs (11.1%) were positive compared to asymptomatic dogs from other sources (18.4%; $\chi^2 = 4.06$, $p = 0.04$). Seven haemoparasites were identified microscopically: *Babesia gibsoni*, *B. canis, Ehrlichia canis*, *Anaplasma platys*, *Leishmania* sp., *Hepatozoon canis* and microfilariae. *Babesia gibsoni* was the most common vector borne parasite among the dogs. *Leishmania* sp. and *H. canis* were always single infections while microfilaria always occurred as mixed infections. There was no difference in the prevalence of *B. gibsoni* in SLAF dogs (8.6%) and the other dogs (13.3%; $\chi^2 = 2.61$, $p = 0.10$). However, the prevalence of *A. platys* was higher in SLAF dogs (4.6%) compared to the other dogs (1.2%; $\chi^2 = 7.27$, $p = 0.001$). The asymptomatic dogs, especially the free-roaming ones, possibly provide reservoirs of infection and investigation of the relationship between parasite load and clinical signs of infection need further study.

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