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GASTROINTESTINAL PARASITES OF DOGS IN A REMOTE TEA-GROWING AREA IN TALAWAKELLE: A POTENTIAL PUBLIC HEALTH PROBLEM

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Gastrointestinal (GI) parasites cause severe illness in dogs and humans, particularly in socio-economically challenged communities with large stray dog populations. Most of these GI parasites of dogs are zoonoses. Since dogs play a pivotal role in the epidemiology of human infections, investigating the types of GI parasites and prevalence are important in assessing their public health significance. Fresh faecal samples from stray dogs in two tea estate communities (n = 50 from each) in Talawakelle were collected and analysed following a modified Sheather's sucrose floatation method. The common dog hookworm *Ancylostoma* was further investigated using the molecular marker *ITS1-5.8S-ITS2* for species identification and phylogeny. Of the 100 stray dogs examined, 97.0% were positive for GI parasites. Mixed infections (85.6%) were more common than single infections (14.4%). Sixteen GI parasite species were detected using egg morphology and morphometry, all of which were zoonotic. *Entamoeba* sp. (58.0%) was the most prevalent infection, followed by *Ancylostoma* sp. (45.0%) infection. Overall, helminth prevalence was significantly higher in female dogs (92.5%, n = 37) than male dogs (73.3%, n = 44), potentially due to the immune suppression during pregnancy and lactation. Puppies (n = 15) harboured higher parasitic burdens than adults (n = 82), of which the prevalence and burden of *Toxocara canis* (68.8%; $p < 0.001$) was significantly higher, possibly due to vertical trans-mammary or trans-placental transmission of infective larvae. This study depicts the first record of the parasite *Hymenolepis* from dogs in Sri Lanka. This study also signifies the first molecular characterisation of *Ancylostoma caninum* in Sri Lanka. The local variant was phylogenetically unique and 99.2% similar to the variant identified from India. The presence of zoonotic GI parasites with public health significance highlights the importance of improving community sanitation, proper veterinary care for dogs, and public awareness of zoonotic diseases.

Keywords: *Ancylostoma caninum*, Dogs, Molecular characterisation, Prevalence, Zoonoses