

Intestinal and Ectoparasites of Human Health Importance among Stray Dogs in Galle District, Sri Lanka

S.P. Rathnayake¹, H.P. Sudusinghe², T.H.W.T. Nilaweera³, M.A.P. Marasinghe⁴, W.A. Sriyalatha⁵, P.A.D.H.N. Gunathilaka⁶

Human-animal bond is a reciprocally favorable dynamic relationship which is beneficial to the health and well-being of both. Dogs have close contact with humans and play a pivotal role as definitive hosts or reservoirs for different zoonotic parasites, especially in developing countries. There are only few studies have focused on the zoonotic potential of animals in Sri Lanka. Therefore, the objective of the present study was the determine the intestinal and ectoparasites among dog population that may be important for human health. A total of 40 stray dogs captured for an animal welfare clinic conducted in Galle District of Sri Lanka was recruited for the study. Faecal samples were collected per rectal in to separate vials containing 10% formaldehyde. Ectoparasites of selected dogs were collected using a lose comb and stored in alcohol solution. The stool samples were processed by Kato-Katz techniques and intestinal parasitic stages were morphologically identified. For quantitative analysis, the modified McMaster technique was used to estimate eggs per gram of feces. The ectoparasites were characterized referring to morphological features. The results revealed eight intestinal parasites namely; *Ancylostomacanthum* (Prevalence: 66.75%; Eggs per gram: 362.82), *Toxocaracanis* (13.51%; 73.41), *Enterobiusvermicularis* (9.1%; 49.41), *Trichurisvulpis* (7.0%; 38.12), *Physalopterarara* (1.56%; 8.47), *Paragonimuskellicotti* (1.0% 5.65), *Uncineriastenocephala* (0.78%; 4.24) and *Eucoleusaerophilus* (0.26%; 1.41). The high prevalence rates of *T. canis* may cause visceral and ocular larva migrans to humans, which lead to blindness and *A. caninum* associated with hookworm related cutaneous larva migrans. Humans can be infected with *T. vulpis* when they accidentally ingest embryonated eggs, through contamination of infected soil, food or fomites even though it has been recorded as a rare infection. *P. rara* infection can be caused to humans by the accidental ingestion of arthropod hosts such as German cockroaches. In addition, the *P. kellicotti*, *U. stenocephala*, *E. aerophilus* and *E. vermicularis* may cause some health issues to humans. Even though present study did not indicate the presence of *Echinococcusgranulosus* which resides in the small bowel of dogs and other canids may lead to cause echinococcosis in humans. *Argas persicus* (Prevalence; 34.18%) was the predominant among ectoparasites followed by *Ctenocephalidescanis* (32.91%) and *Ixodesscapularis* (32.91%). *A. persicus* can cause serious allergies on humans. The bites of *I. scapularis* may lead to cause human babesiosis (*Babesiamicroti*), human granulocytic ehrlichiosis (HGE); and tick-borne encephalitis (TBE). The presence of *C. canis* may indicate the transmission potential of *Dipylidiumcaninum* to humans as an occasional host. Overall, the investigation indicated that stay dogs in Galle District contain a multitude of ectoand endoparasites, thus posing a risk for the human population.

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¹ Department of Animal Production and Health, Northern Province, Sri Lanka

² Department of Parasitology, Faculty of Medicine, University of Kelaniya, Sri Lanka

³ Department of Parasitology, Faculty of Medicine, University of Kelaniya, Sri Lanka

⁴ Department of Parasitology, Faculty of Medicine, University of Kelaniya, Sri Lanka

⁵ Department of Parasitology, Faculty of Medicine, University of Kelaniya, Sri Lanka

⁶ Department of Parasitology, Faculty of Medicine, University of Kelaniya, Sri Lanka; n.gunathilaka@kln.ac.lk