

Gastrointestinal Helminth and Protozoan Infections of Wild Mammals in Four Major National Parks in Sri Lanka

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A cross-sectional, coprological survey of gastrointestinal (GI) parasites of wild mammals in four major National Parks: Wilpattu, Udawalawe, Wasgamuwa and Horton Plains was carried out from November 2016 to August 2017. Fresh faecal samples were collected and analyzed using sedimentation technique, iodine and saline smears, Sheather's sucrose floatation for morphological identification and modified salt floatation for quantitative analysis. Seventy samples (Wilpattu = 21, Udawalawe = 8, Wasgamuwa = 28 and Horton Plains = 13) from ten mammal species: Asian elephant (8), spotted deer (12), wild water buffalo (12), sambur (8), Indian hare (6), Asian palm civet (9), sloth bear (2), wild boar (7), grey langur (1), leopard (1) and four samples from unknown hosts were analysed. Most were infected with more than one GI parasite (94.3%). The highest prevalence of infection was recorded in Horton Plains (100%), followed by Wasgamuwa (92.8%), Wilpattu (90.4%) and Udawalawe (75.0%) with a significant difference among the parks ($\chi^2=35.435$; $p<0.001$) except between Wasgamuwa and Wilpattu ($\chi^2=0.5786$; $p=0.4468$). Nineteen genera of GI parasites were recorded, of which 14 were identified: *Entamoeba*, *Isospora*, *Balantidium*, *Strongylus*, *Fasciola*, *Moneizia*, *Dipylidium*, *Diphylobothrium*, *Toxocara*, *Trichiurus*, *Ascaris*, *Trichostrongylus*, *Schistosoma* and *Strongyloide*. *Strongylus* (62.1%) and *Entamoeba* (80.3%) were the most prevalent helminth and protozoan infections, respectively. There was no difference in the prevalence of helminths (87.1%) and protozoans (84.3%; Chi square test; $\chi^2=1.0$; 1; $p=0.317$). The common parasites in carnivores were *Entamoeba*, *Balantidium*, *Moneizia*, *Strongylus* and *Strongyloides* and in herbivores *Entamoeba*, *Strongylus*, *Strongyloides* and *Toxocara*. Highest intensity of helminth infection was *Strongylus* (17.639 EPG) and that of protozoans was *Isospora* (18.743 OPG). Although the prevalence of GI parasites was high, the intensity of infections was low and therefore they are unlikely to be a major health problem to the wild mammals in these parks.

Key words: Gastrointestinal parasites, National Parks, wild mammals, helminthes, protozoans