

## **Detection of *Toxocara* spp. in Selected Schools and Playgrounds in Peradeniya: A Pilot Study**

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*Toxocara* spp. are common intestinal roundworms that parasitize dogs and cats. Humans can be accidental hosts by ingestion of parasitic ova through the contaminated food and water. Due to the presence of free roaming stray dogs and cats in our environment, open fields, yards, and playgrounds are likely to be highly prone to soil contamination with parasitic worm ova. Environmental exposure to *Toxocara* spp. eggs pose a potential health risk, particularly in areas that are commonly visited or regularly used by children. *Toxocara* infection in children can cause complications such as ocular toxocariasis, visceral toxocariasis, neuro-toxocariasis, and allergic reactions. This pilot study aims to detect the presence of *Toxocara* spp. in soil samples collected from selected schools and public playgrounds. A total of 16 soil samples were obtained from four different locations in Peradeniya, with two samples collected from shaded areas and two from areas exposed to the direct sunlight, at each site. The modified salt centrifugal flotation technique was employed for parasite ova detection with each sample processed in triplicate to ensure accuracy and reproducibility. Additionally, soil DNA extraction was carried out using the HiPurA® Stool DNA Purification Kit, in accordance with the manufacturer's protocol. Microscopic examination revealed two positive samples from two different locations (12.5%, 2/16), indicating the presence of *Toxocara* spp. eggs and these results are considerably higher compared to previous studies conducted in the Kandy area. Further molecular analysis is needed on the extracted DNA to confirm the *Toxocara* species in the samples. This preliminary investigation underscores the importance of conducting more comprehensive studies to evaluate the potential health risks posed by soil-transmitted parasites, particularly in recreational environments in Sri Lanka, where a large population of free-roaming stray dogs exists.

**Keywords:** *Toxocara* spp., soil contamination, public health risk