

OCCURRENCE OF *CYRPTOSPORIDIUM* OOCYSTS IN A NATURAL POPULATION OF NON-HUMAN PRIMATES IN SRI LANKA

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Cryptosporidium is an enteric protozoan parasite responsible for diarrhoea in children, young animals and immunocompromised hosts. In Sri Lanka, the infection has been reported in man and a wide variety of domestic animals. The objective of the present work was to determine the occurrence of the infection in a natural population of monkeys and the association of the infection with the habitat.

The study was conducted in nonhuman primates (infants to adults) that habituated separate locations in the natural sanctuary of the Polonnaruwa archaeological reserve, which bordered a human habituated area. Faecal samples were collected from 117 monkeys comprising 81 toque monkeys (*Macaca sinica*), 21 gray langurs (*Semnopithecus entellus*) and 15 purple-faced langurs (*Trachypithecus senex*). The samples were examined for cryptosporidium oocysts using Sheather's sucrose floatation method followed by staining with the modified Ziehl Neelsen technique. The oocysts were also measured using an ocular micrometer and selected positive samples were stained with Nigrosin, Giemsa and modified trichrome to verify the identification of the parasite. In addition, the oocysts were quantified as described by Noordeen *et al* (*Veterinary Parasitology*: 2000: 93; 95-101).

The identification of the parasite was based on staining characteristics and micrometry (2-6 µm). Of the 117 specimens examined, 28.2 % (33/117) were positive for cryptosporidium oocysts. An overwhelming proportion of the infected animals (97 %) were from home ranges, which overlapped with human habituated areas as compared with non-human habituated areas (3 %). The prevalence of the infection varied between the species of monkeys with gray langurs having the highest prevalence (38.1 %) followed by toque monkeys (30.9 %); none of the purple-faced langurs were positive for cryptosporidium oocysts. Twenty seven percent of the infected animals had a low oocyst counts (1 - 999 oocysts per gram of faeces), 51 % had moderate counts (1000 - 4999) while 18 % had high counts (>5000). The mean oocyst count of cryptosporidium positive samples was 3633 (166 - 34,250). Except for one juvenile toque monkey that had mild diarrhoea with a high oocyst count (34,250), all cryptosporidium positive animals were asymptomatic.

This is the first study to examine the occurrence of cryptosporidium in nonhuman primates in Sri Lanka. The presence of the infection in the three species of monkeys studied was closely related to their habitat. Despite the variation in the oocyst counts, a majority of the infected animals were asymptomatic suggesting that an ecological balance exists between the hosts and the parasite in the study area.