

PROTOZOAN GUT PARASITES IN THREE ANURAN SPECIES FROM A NATURAL POND IN THE GANNORUWA FOREST RESERVE

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Tadpoles and adults of *Polypedates cruciger*, *Limnonectes kirtisinghei* and *Bufo melanostictus* collected from a natural pond in Gannoruwa forest reserve (Kandy District) were observed for a period of six months. A parasitological survey of the gut parasites of the tadpoles collected was carried from hatching to metamorphosis into adults. Tadpoles were collected weekly, brought in to the laboratory and slide mounts of gut smears were prepared. These were fixed in Schaudinns' and stained with Harris' Haemotxylin and aqueous Eiosin. The stained gut smears were microscopically observed for parasites.

Four genera of protozoan parasites were identified in gut smears. Three belonged to the Phylum Sarcocystophora (*Opalina*, *Protoopalina* and *Zelleriella*) and one to Phylum Ciliophora (*Nyctotherus*). Tadpoles of *P. cruciger* were infected with parasites of the Genus *Nyctotherus* only, and tadpoles of *B. melanostictus* were infected with the Genus *Opalina* only. Tadpoles of *L. kirtisinghei* were infected with all four genera of parasites, *Nyctotherus*, *Opalina*, *Protoopalina* and *Zelleriella*. The distribution of parasites in the three tadpole host species showed a marked difference even though the tadpoles were found in the same habitat. This difference could be due to the feeding habits and the duration of the tadpole stage in each host species. Tadpoles of *L. kirtisinghei* were closely associated with the bottom of the water body throughout their life. Their food consisted mainly of detritus and phytoplankton, collected from the bottom where most of the parasite cysts are present. *P. cruciger* inhabits mostly the water column, close to the water surface. The gut contents of these tadpoles consisted mainly of phytoplankton, collected from the water column. The feeding behaviour and food type of tadpoles of *B. melanostictus* and *P. cruciger* are similar. The duration of the tadpole stage in *Polypedates cruciger* and *L. kirtisinghei* is seven weeks but in *B. melanostictus* it is only four weeks. As tadpoles, *L. kirtisinghei* spends a longer period in water and are closely associated with the bottom surface feeding on detritus. Since parasite cysts are abundant in the water bottom these tadpoles have a very high chance of getting infected compared to the other two tadpole species that show different behavioural adaptations.

The study indicates that even though different tadpole species are found in the same habitat, the differences in levels and pattern of parasitic infections result from different physiological and behavioural adaptations seen in different tadpole species. These factors may determine their resistance and/or susceptibility to parasitic infection.