

The comparative study of gastro-intestinal parasites of chimpanzee (*Pan troglodytes schweinfurthii*) Nyungwe National Park (NNP), Rwanda. A case study of Uwinka site (south-western part of NNP) and Gisovu site (northern part of NNP)

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The Chimpanzees (*Pan troglodytes schweinfurthii*) in Nyungwe National Park (NNP) located in southwest of Rwanda serve as flagship species and are used in tourism activities to help protect the biodiversity of the park. They are not only attract public support in its own right but also helps to focus attention on its habitat, up on which many others species depend for survival. Although, these species are under stress from the 1994 genocide effects associated to anthropogenic activities composed of agriculture, mining, honey and fire-wood harvesting, charcoal burning in and outside the park and significantly contribute to the loss of the large area of the park. The land surrounding Nyungwe National Park is densely populated with 300 inhabitant / Km²) and this may contribute overtime to cross contamination by transferring antro-po-zoonotic disease due to close genetic relationship (99%) between human and chimpanzees.

This research of its first kind in Rwanda conducted in 2009 aimed at contributing to an improved understanding of *Pan troglodytes schweinfurthii*'s parasites and to assess at what level parasites are being passed between human population and Pan Troglodytes Schweinfurthii of NNP. Thus, eighteen (18) fecal samples were collected from 18 chimpanzees around UWINKA area (Northwestern section of the park); where one of the park's tourism offices is located, and where most of tour trips begin to view habituated primates groups. The area basically known for its diversity of primates is not too far from the edge of the park, where forest comes into contact with villages and agricultural fields. Lastly, Eighteen (18) fecal samples were collected from GISOVU area (Northern section of the park) which holds the non -habituated chimpanzess not yet being visited by tourists. Analytically, the laboratory tests showed that: the prevalence rate of helminthiasis on chimpanzees is 100%. The analysis with Ttest showed that the difference between the infestation rates of chimpanzess from two areas is not significant and the helminthiasis commonly found in "*Pan troglodytes schweinfurthii*" include: *Ancylostoma duodenale*, *Strongyloides sp.*, *Trichostrongylus sp.* and *Oesophagostomum sp.* and some of them are much common to human beings refer to Health Centers surrounding the NNP.

Most importantly, this research were contributed and helped protected areas particularly Nyungwe National Park to restructure where weakness are identified based on research findings. The research helped also policy makers of the Department of Tourism and Conservation within Rwanda Development Board; taking decisions concerning the development of primate tourism guidelines, monitoring, conservation, protection and management of primate population as well as help future researchers who will be interested in conducting relevant research on primates' parasites.

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