

# Persistent intestinal schistosomiasis and progressive liver morbidity in sanctuary chimpanzees: A 12-year follow-up study on Ngamba Island, Uganda

In 2010, intestinal schistosomiasis caused by *Schistosoma mansoni* was first confirmed in a semi-captive chimpanzee (*Pan troglodytes*) population on Ngamba Island, Lake Victoria, revealing sustained natural exposure of great apes to a hyper-endemic transmission setting. Despite repeated praziquantel (PZQ) treatment administered as part of routine veterinary care, evidence of ongoing infection has persisted within the population. Using a multi-modal diagnostic framework combining coprological, antigen-based and invasive parasitological assays alongside standardized hepatic

ultrasonography, we assessed 49 chimpanzees. Results indicate a broadly stable infection prevalence as assessed by antigen detection, accompanied by a marked progression in schistosomiasis-associated hepatic morbidity.

Ultrasonographic assessment revealed progression from mild periportal thickening to advanced pipe-stem fibrosis in several long-term residents over the 12-year interval. Molecular analysis showed the presence of only *S. mansoni* amongst with further analysis showing the persistence of three historic haplotypes plus an additional two, previously undescribed, haplotypes. These findings underscore the limitations of chemotherapy-only control strategies in great apes and emphasize the role of continuous environmental re-exposure in sustaining transmission within lacustrine

One Health settings.