

**Project Title: Fitness consequences and determinant of parasite infection in a wild social carnivore**

Research Group: Department of Evolutionary Ecology  
Address: Leibniz Institute for Zoo and Wildlife Research (IZW)  
Alfred-Kowalke-Str. 17, 10315 Berlin

**Supervisors: Marion L East, Gabor Czirják, Heribert Hofer**



**Project Description:**

This project aims to determine parasite infection load and its consequences in free-ranging spotted hyenas. The study is part of a long-term (30 years) project on a population of individually known animals in the Serengeti National Park, Tanzania. Intestinal parasite infection burdens will be determined in individuals with detailed known life histories using faecal parasite egg counts, and also by metabarcoding of faecal samples. Immune processes will also be determined in the same known animals using a range of assays including (1) ELISA assays for the measurement of IgA and IgG in faeces, (2) a lysozyme assay using faeces, and (3) cytokine gene expression in distal intestinal epithelium. Faecal glucocorticoids concentrations will also be determined in the same sample of animals using a validated assay for this species. Using detailed life history data, the fitness consequences of parasite infection can then be determined.