

 **CLEVELAND
METROPARKS**

ZOO



SECURING A FUTURE FOR WILDLIFE

2017
Zoo Research Publications

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Koester

A banner year for Research Publications!

6 papers published in 2017

- Effect of locally-made films on **ape conservation** education in Uganda
- Using theatre and films for **gorilla conservation** education in Congo
- Reproductive physiology in **cheetahs**
- Early pregnancy diagnosis in **cheetahs**
- Gut microbiome and cardiac disease in **zoo gorillas**
- Variables affecting pacing in **bears**



The screenshot shows the article page for "Gut microbiome composition is associated with cardiac disease in zoo-housed western lowland gorillas (*Gorilla gorilla gorilla*)". The page includes the journal title "FEMS MICROBIOLOGY LETTERS", a navigation bar with links for "Issues", "More Content", "FEMS Journals", "Submit", "Purchase", and "About", and a small "ALL FEMS" button. The article title is prominently displayed, followed by the authors' names: Katherine L. Krynak, David J. Burke, Ryan A. Martin, and Patricia M. Dennis. Below the authors, the journal information is provided: "FEMS Microbiology Letters, Volume 364, Issue 15, 15 August 2017, fmx149", along with a DOI link: "https://doi.org/10.1093/femsle/fmx149". The publication date is listed as "Published: 14 July 2017" with a link to "Article history". There are also links for "Cite", "Permissions", and "Share". The abstract section is titled "Abstract" and contains the following text: "Cardiac disease is a leading cause of mortality in zoo-housed western lowland gorillas (*Gorilla gorilla gorilla*). The gut microbiome is associated with cardiac disease in humans and similarly the gut microbiome may be associated with cardiac diseases in close relatives of humans, such as gorillas. We assessed the relationship between cardiac disease and gut bacterial composition in eight zoo-housed male western lowland gorillas (N = 4 with and N = 4 without cardiac disease) utilizing 16S rRNA gene analysis on the Illumina MiSeq sequencing platform. We found bacterial composition differences between gorillas with and without cardiac disease. Bacterial operational taxonomic units from phyla Bacteroidetes, Spirochaetes, Proteobacteria and Firmicutes were significant indicators of cardiac disease. Our results suggest that further investigations between diet and cardiac disease could improve the management and health of zoo-housed populations of this endangered species."

A banner year for Research Publications!

10 papers currently in press

Animal Welfare

Volume 27 Issue 1

February 2018

Articles

Farmer perspectives on welfare outcome assessment

Hair cortisol in rabbits

Risk factors for tail-biting in long-tailed pigs

*Effect of environmental provisioning on *Anolis carolinensis**

The link between livelihoods and equine welfare

Enrichment effects on elephants

Rewards and sanctions to reduce sheep lameness

Mandrill self-directed behaviour



Reports and Comments

Book Reviews

- Breeding management of giant anteaters
- Evaluation of red-rumped agouti diet
- Causes of mortality in sloth bears
- Cognitive testing and mandrill welfare
- Self-directed behavior function in mandrills
- Effect of teacher training in conservation on student learning in Uganda
- Zoos and gorilla conservation
- Rhinosinusitis in Bennett's Wallaby
- Work-for-food enrichment in four species of bears
- Achieving optimal welfare in Nile hippos

Additional 6 papers submitted for publication this year
Additional 3 book chapters In Press







