

CREW's Most Recent Peer-reviewed Rhino Scientific Publications

- Nardelli, F., Dierenfeld, E., Havmøller, R.W., Schaffer, N., Roth, T. (2025). Sumatran Rhinoceros *Dicerorhinus sumatrensis* (Fischer, 1814). In: Melletti, M., Talukdar, B., Balfour, D. (eds) Rhinos of the World. Fascinating Life Sciences. Springer, Cham. https://doi.org/10.1007/978-3-031-67169-2_7
- Rispoli LA, E Donelan, PM Pennington, PH Joyner and TL Roth. 2025. Evaluating alternatives to flow cytometry for sex-sorting rhinoceros sperm. *Theriogenology Wild*. 7:100135. <https://doi.org/10.1016/j.therwi.2025.100135>
- Metrione LC, TL Roth, Y Rodriguez and EW Freeman. 2024. Pilot investigation of socio-spatial relationships in an ex situ white rhino (*Ceratotherium simum simum*) bachelor group. *Journal of Zoological and Botanical Gardens* Dec 6;5(4):774-87. <https://www.mdpi.com/2673-5636/5/4/51>
- Rispoli LA, J Wojtusik and TL Roth. 2024. Exploring serum ferritin's connection to the acute phase response in zoo-managed African rhinoceroses. *Zoo Biology*: <https://doi.org/10.1002/zoo.21873>
- Roth TL, SL Reboloso, EM Donelan, LA Rispoli and JP Buchweitz. 2024. Rhinoceros horn mineral and metal concentrations vary by sample location, depth, and color. *Scientific Reports* **14**, 13808. <https://doi.org/10.1038/s41598-024-64472-z>
- Roth, TL. 2024. That was then, this is now – Over two decades of progress in rhinoceros reproductive science and technology. *Theriogenology Wild* 4, doi: 10.1016/j.therwi.2023.100065.
- Rispoli, LA and TL Roth. 2023. Validation of the iSperm for assessing rhinoceros sperm. *Theriogenology Wild* 3, doi: 10.1016/j.therwi.2023.100048.
- Roth TL, EM Donelan, LA Rispoli and T Reilly. 2023. Prolactin enzyme-linked immunosorbent assay for rhinoceroses—another tool for assessing reproductive function and dysfunction in this taxon. *Theriogenology Wild*, doi: 10.1016/j.therwi.2023.100035.
- Roth TL, M Philpott and J Wojtusik. 2022. Rhinoceros serum labile plasma iron and associated redox potential: interspecific variation, sex bias and iron overload disorder disconnect. *Conservation Physiology* 10(1), <https://doi.org/10.1093/conphys/coac025>
- Wojtusik J, E Curry and TL Roth. 2021. Rhinoceros serum microRNAs: Identification, characterization, and evaluation of potential iron overload biomarkers. *Frontiers in Veterinary Science* 8:711576.
- Pollock, KE, JK O'Brien, TL Roth, J Proudfoot, J Niederlander, L Micheas, TR Robeck and MA Stoops. 2020. Anti-Müllerian hormone in managed African and Asian rhino species. *General and Comparative Endocrinology* 294, DOI: <https://doi.org/10.1016/j.ygcen.2020.113487>
- Roth TL, A Switzer, M Watanabe-Chailland, EM Bik, DA Relman, LE Romick-Rosendale and NJ Ollberding. 2019. Reduced gut microbiome diversity and metabolome differences in rhinoceros species at risk for iron overload disorder. *Frontiers in Microbiology*, DOI: <https://doi.org/10.3389/fmicb.2019.02291>

- Wojtusik J, MA Stoops and TL Roth. 2019. Animal protein-free OptiXcell and shortened equilibration periods can replace egg yolk-based extender and slow cooling for rhinoceros semen cryopreservation. *Cryobiology*, DOI: <https://doi.org/10.1016/j.cryobiol.2019.06.003>
- Mays Jr. HL, Chih-Ming Hung, PJ Shaner, J Denvir, M Justice, Shang-Fang Yang, TL Roth, DA Oehler, Jun Fan, S Rekulapally and DA Primerano. 2018. Genomic analysis of demographic history and ecological niche modeling in the endangered Sumatran Rhinoceros *Dicerorhinus sumatrensis*. *Current Biology* 28(1):70-76. DOI: <https://doi.org/10.1016/j.cub.2017.11.021>
- Stoops MA, GD Winget, CJ DeChant, RL Ball and TL Roth. 2018. Early fetal sexing in the rhinoceros by detection of male-specific genes in maternal serum. *Molecular Reproduction & Development* 85(3):197-204. <https://doi.org/10.1002/mrd.22953>
- Wojtusik J, MA Stoops and TL Roth. 2018. Comparison of soy lecithin, coconut water, and coconut milk as substitutes for egg-yolk in semen cryodiluent for black rhinoceros (*Diceros bicornis*) and Indian rhinoceros (*Rhinoceros unicornis*). *Theriogenology* 121:72- 77.
- Wojtusik J and TL Roth. 2018. Investigation of factors potentially associated with serum ferritin concentrations in the black rhinoceros (*Diceros bicornis*) using a validated rhinoceros-specific assay. *Journal of Zoo and Wildlife Medicine* 49(2):297-306.
- Roth TL, MW Schook and MA Stoops. 2017. Monitoring and controlling ovarian function in the rhinoceros. *Theriogenology* 109:14-21. DOI: <https://doi.org/10.1016/j.theriogenology.2017.12.007>
- Roth TL, PR Reinhart and JL Kroll. 2017. Serum ferritin concentration is not a reliable biomarker of iron overload disorder progression or hemochromatosis in the Sumatran rhinoceros (*Dicerorhinus sumatrensis*). *Journal of Zoo and Wildlife Medicine* 48(3):645-658.
- Roth TL, MA Stoops, TR Robeck and JK O'Brien. 2016. Factors impacting the success of post-mortem sperm rescue in the rhinoceros. *Animal Reproduction Science* 167:22-30.
- Stoops MA, Campbell MK, DeChant CJ, Hauser J, Kottwitz J, Pairan RD, Shaffstall W, Volle K and TL Roth. 2016. Enhancing captive Indian rhinoceros genetics via artificial insemination of cryopreserved sperm. *Animal Reproduction Science* 172:60-75.
- Watanabe M, TL Roth, SJ Bauer, A Lane and LE Romick-Rosendale. 2016. Feasibility study of NMR based serum metabolomic profiling to animal health monitoring: a case study on iron storage disease in captive Sumatran rhinoceros (*Dicerorhinus sumatrensis*). *PLoS ONE* 11(5): e0156318. doi:10.1371/journal.pone.0156318.
- O'Brien JK, TL Roth, MA Stoops, RL Ball, KJ Steinman, GA Montano, CC Love and TR Robeck. 2015. Sperm sex-sorting and preservation for managing the sex ratio and genetic diversity of the southern white rhinoceros (*Ceratotherium simum simum*). *Animal Reproduction Science* 152:137-153.
- Caprio JM, Stoops MA, Freeman EW, Clawson D and MW Schook. 2014. Effects of management strategies on glucocorticoids and behavior in Indian rhinoceros (*Rhinoceros unicornis*): translocation and operant conditioning. *Zoo Biology* 33:131-143.