

Terri Lynn Roth
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 Center for Conservation and Research of Endangered Wildlife
 Cincinnati Zoo & Botanical Garden, 3400 Vine Street, Cincinnati, OH 45220

Education/Training

Institution and Location	Degree	Year(s)	Field of Study
University of California, Davis, CA	B.S.	1986	Animal Science
University of California, Davis, CA	M.S.	1988	Animal Science
Louisiana State University, Baton Rouge, LA	Ph.D.	1991	Animal Science

Positions and Honors

<u>Co-Chair, Polar Bear Research Council</u> , Association of Zoos and Aquariums, Polar Bear Species Survival Plan	2018-present
<u>YWCA Career Women of Achievement Award</u> , Cincinnati, OH	2010
<u>Chevron Texaco Conservation Award</u> , San Ramon, CA	2004
<u>Forty Under 40 Honoree</u> , Cincinnati Business Courier Award, OH,	2002
<u>Vice President for Asia Programs</u> , International Rhino Foundation Board	2002-present
<u>Chair, Rhino Research Council</u> , Association of Zoos and Aquariums, Rhino Taxon Advisory Group	2002-present
<u>Vice President of Conservation & Science</u> , Cincinnati Zoo and Botanical Garden, Cincinnati, Ohio	2001-present
<u>Director, Center for Conservation and Research of Endangered Wildlife</u> , Cincinnati Zoo and Botanical Garden, Cincinnati, Ohio	1996-present
<u>Gamete Biologist</u> , National Zoological Park's Conservation and Research Center, Front Royal, VA	1993-1996
<u>Post-Doctoral Fellow</u> , National Zoological Park, Washington D.C.	1991-1993

Most Recent Peer-Reviewed Manuscripts (from over 175 papers and abstracts)

- 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>
- Wojtusik J, MA Stoops and TL Roth. 2018. Comparison of soy lecithin, coconut water and coconut milk as animal-protein free alternatives. *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. *J Zoo Wildl Med* 49(2):297-306.
- Stoops MA, GD Winget, CJ DeChant, R Ball, C Morrow and TL Roth. 2018. Early fetal sexing in the rhinoceros by detection of male-specific genes in maternal serum. *Mol Reprod Dev.* 1-8. DOI: <https://doi.org/10.1002/mrd.22953>

- Bryant JL and TL Roth. 2018. Annual fecal glucocorticoid metabolite concentrations in pregnant and pseudopregnant polar bears (*Ursus maritimus*) in North American zoos. *J Zoo Aquar Res* 6(1): 6-11. DOI:<https://doi.org/10.19227/jzar.v6i1.259>
- Roth TL, MW Schook and MA Stoops. 2017. Monitoring and controlling ovarian function in the rhinoceros. *Therio* DOI: 10.1016/j.theriogenology.2017.12.007
- 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. 2017. Genomic analysis of demographic history and ecological niche modeling in the endangered Sumatran Rhinoceros *Dicerorhinus sumatrensis*. *Current Biology* 2017:1-11, [dx.doi.org/10.1016/j.cub.2017.11.021](https://doi.org/10.1016/j.cub.2017.11.021)
- 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*). *J Zoo Wildl Med* 48(3):645-658.
- Curry E, L Browning, P Reinhart and TL Roth. 2017. Integrating trans-abdominal ultrasonography with fecal steroid metabolite monitoring to accurately diagnose pregnancy and predict the timing of parturition in the red panda (*Ailurus fulgens styani*). *Zoo Biology* 36:193-200.
- Arnold DM, C Gray, TL Roth, S Mitchell and LH Graham. 2017. A simple, field-friendly technique for cryopreserving semen from Asian elephants (*Elephas maximus*). *Animal Reproduction Science* 182:84-94.
- Stoops MA, MK Campbell, CJ DeChant, J Hauser, J Kottwitz, RD Pairan, W Shaffstall, K Volle and TL Roth. 2016. Enhancing captive Indian rhinoceros genetics via artificial insemination of cryopreserved sperm. *Anim. Reprod. Sci.* 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](https://doi.org/10.1371/journal.pone.0156318).
- Roth, TL, MA Stoops, TR Robeck and JK O'Brien. 2016. Factors impacting the success of post-mortem sperm rescue in the rhinoceros. *Anim. Reprod. Sci.* 167:22-30.
- Curry E, S Safayi, R Meyerson and TL Roth. 2015. Reproductive trends and longevity of polar bears (*Ursus maritimus*) in North American zoos: a historical analysis. *J. Zoo and Aquar. Res.* 3:99-106.
- 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*). *Anim. Reprod. Sci.* 152:137-153.
- Curry, E, J Wyatt, LJ Sorel, KM MacKinnon and TL Roth. 2014. Ovulation induction and artificial insemination of a captive polar bear (*Ursus maritimus*) using fresh semen. *J. Zoo Wildl. Med.* 45:645-649.
- Stoops MA, GD West, TL Roth and NP Lung. 2014. Use of urinary biomarkers of ovarian function and alternogest supplementation to enhance captive breeding success in the Indian rhinoceros (*Rhinoceros unicornis*). *Zoo Biol.* 33:83-88.
- Roth TL, PR Reinhart, JS Romo, D Candra, Andriansyah and MA Stoops. 2013. Sexual maturation in the Sumatran rhinoceros (*Dicerorhinus sumatrensis*). *Zoo Biol.* 32: 549-555.
- Curry, E, TL Roth, KM MacKinnon and MA Stoops. 2012. Seasonal variation in fecal testosterone metabolite concentrations in captive male polar bears (*Ursus maritimus*). *Dom. Anim. Reprod.* 47 (Suppl. 6): 222-225.
- Curry, E, MA Stoops and TL Roth. 2012. Non-invasive detection of candidate pregnancy protein biomarkers in the feces of captive polar bears (*Ursus maritimus*). *Therio.* 78:308-314.
- Stoops, MA, JK O'Brien and TL Roth. 2011. Gamete rescue in the African black rhinoceros (*Diceros bicornis*). *Therio.* 76: 1258-1265.