

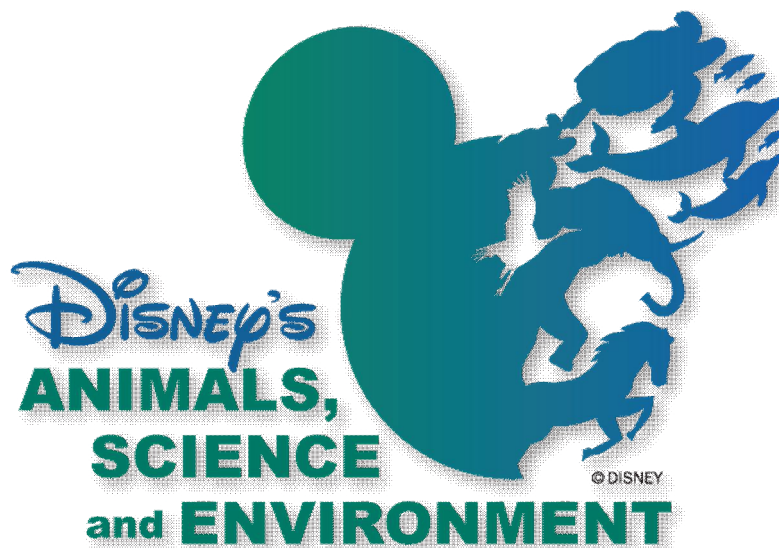
PROCEEDINGS

of the 6th ISWE CONFERENCE

14-16 August 2017 - Orlando, FL, USA



Hosted by Disney's Animal Kingdom



Welcome to the 6th Conference of the International Society of Wildlife Endocrinology!

Welcome to the 6th Conference of the International Society of Wildlife Endocrinology, held this year at Disney's Coronado Springs Resort in Orlando, FL from 14-16 August, 2017.

We have had a busy and productive 2 years at ISWE since our last conference, including website updates www.ISWE-endo.org, automatic membership payment online and a membership renewal reminder system, obtaining official nonprofit status in the US, establishing a 5-year strategic plan, forming official communications, membership, conference and antibody development committees, and launching the Wildlife Endocrinology Information Network (WEIN). Stay tuned for our annual membership update at lunch on the second day of the conference to learn more!

We would like to thank outgoing board members Elizabeth Freeman and Ned Place, as well as Dave Kersey, who graciously agreed to stay on the board as Treasurer for an extra year due to an unforeseen event that prevented last year's voted treasurer from joining the board. They have volunteered their time over the past 3-4 years and have been extremely productive during their time on the board. They will finish their terms at the end of 2017.

This year, 78 abstracts were submitted and 72 were accepted for presentation and inclusion in the conference proceedings. We had 22 colleagues reviewing manuscripts and abstracts this year and we would like to thank them for their time and effort in the review process. Also, we received 16 very competitive submissions for student travel awards. We thank Arbor Assays for sponsoring a \$1000 travel award, and due to their generosity, we were able to award three travel scholarships this year.

In addition to our normal focus on reproduction, health and welfare, we are happy to have a special sessions this year focused on aquatic species, a growing area for study.

With our focus on aquatic species, we are very excited to have our two keynote speakers, Dr. Tyrone Hayes of UC Berkeley, and Dr. James Gelsleichter from the University of North Florida, who will be presenting talks focused on endocrine issues in amphibians and elasmobranchs.

We thank all the speakers and poster presenters, for sharing new techniques and technologies and providing new insight into endocrinology in wildlife. We had an earlier abstract deadline than usual to accommodate our August conference date and we appreciate everyone's patience and willingness to work hard to meet deadlines.

A very special thanks goes to our Conference Host, Catharine Wheaton of Disney's Animal Kingdom and Conference Chair, Marina Ponzio, who have worked tirelessly behind the scenes for many months to organize what we hope will be a productive and entertaining conference!

Finally, we thank you all for attending the conference. We are a small but growing community and it is through these conferences that we learn how to better study wildlife and embark on collaborative ventures. If you are new to the group do not hesitate to reach out to colleagues to ask them about what tools and techniques they have used in various species. We are a hugely collaborative group and that is one of the things I cherish most about ISWE. It has been a pleasure to serve you and our society as the Board of Directors. We encourage you to engage in stimulating discussions during the conference and welcome new members into our group.

We hope you all enjoy your stay in Orlando!

Mandi Wilder Schook, ISWE Chair

ACKNOWLEDGMENTS

We would like to express our sincere thanks to the following colleagues for reviewing abstracts:

| | |
|-----------------------|--|
| Janine Brown | Smithsonian Conservation Biology Institute, Front Royal, VA, USA |
| Martin Dehnhard | Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany |
| Elizabeth Freeman | New Century College, George Mason University, Fairfax, VA, USA |
| Andre Ganswindt | University of Pretoria, Pretoria, South Africa |
| Katarina Jewgenow | Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany |
| David Kersey | Western University of Health Sciences, Pomona, CA, USA |
| Gabriela Mastromonaco | Toronto Zoo, Toronto, Ontario, Canada |
| Rachel Santymire | Lincoln Park Zoo, Chicago, IL, USA |
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| Catharine Wheaton | Disney's Animal Kingdom, Bay Lake, FL, USA |
| Mandi Wilder Schook | Cleveland Metroparks Zoo, Cleveland, OH, USA |
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| Natalia Prado-Oviedo | Smithsonian Conservation Biology Institute, Front Royal, VA, USA |
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| Mandy Keogh | Alaska Department of Fish and Game, Fairbanks, AK, USA |
| Grace Fuller | Detroit Zoological Society, Royal Oak, MI, USA |
| Ashley Franklin | Point Defiance Zoo & Aquarium, Tacoma, USA |
| Katie L. Edwards | Smithsonian Conservation Biology Institute, Front Royal, VA, USA |
| Veronica Cantarelli | Facultad Ciencias Medicas, Univ. Nacional de Cordoba, Argentina |
| Franz Schwarzenberger | Dept. of Biomedical Sciences, Univ. Veterinary Medicine, Vienna, Austria |
| Carrie Vance | Mississippi State University, MS, USA |
| Jonathan Aaltonen | Omaha's Henry Doorly Zoo and Aquarium, Omaha, NE, USA |

Our Conference Planning Subcommittee

Catharine Wheaton (Host)
Marina Ponzio (Conference Chair)
Lara Metrione
Cayman Adams
Edward Wilkerson
Rachel Santimyre
Shana R Lavin
Katie L Edwards
Meredith Bashaw

We warmly thank our invited speakers for contributing keynote lectures:

Dr. Tyrone Hayes - Department of Integrative Biology, University of California, Berkeley.
FROM SILENT SPRING TO SILENT NIGHT: A TALE OF TOADS AND MEN.

Dr. James Gelsleichter - Department of Biology, University of North Florida.
NONLETHAL APPROACHES TO ASSESS SHARK AND RAY REPRODUCTION IN THE FIELD.



Abstract #103

Are zoo-housed collared anteaters (*Tamandua tetradactyla*) experiencing well-being?: seasonal assessment of basic health and serum cortisol

¹Busso JM, ²Ortiz D, ³Sanchez N, ²García Capocasa MC, ⁴Superina ME, ¹Eguizábal GV

¹Instituto de Investigaciones Biológicas y Tecnológicas, Facultad de Ciencias Exactas, Físicas y Naturales- Universidad Nacional de Córdoba y Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET). Argentina; ²Jardín Zoológico Córdoba (Córdoba Zoo), Argentina; ³Instituto Académico Pedagógico de Ciencias Básicas y Aplicadas- Universidad Nacional de Villa María; ⁴Laboratorio de Medicina y Endocrinología de la Fauna Silvestre, IMBECU (CCT-CONICET Mendoza). Argentina

Presenting and contact person: Sanchez N, jmbusso@conicet.gov.ar

Topic: Animal health and welfare

Presentation type: Lightning Talks

Abstract:

Zoo animal welfare is more commonly assessed based on the environment than directly measured in animals. Although most zoo-housed animals are under controlled feeding management, other environmental factors (such as temperature and photoperiod) may affect welfare measurements. Interpreting measurements without considering possible seasonal variations could thus lead to erroneous conclusions. In the present study, serum biochemistry, hematology, body weight and temperature, and serum cortisol were seasonally evaluated in 6 (3 male, 3 female) individually housed *Tamandua tetradactyla* from Córdoba Zoo (Argentina). Animals were exposed to natural temperature and photoperiod, and fed daily with a standard food mixture. Environmental enrichment was performed twice a week. Individual blood samples were collected in autumn (May), winter (August), spring (November) and summer (February). Considering that several wildlife studies show that glucocorticoids increase after 2-5 minutes from capture, blood was obtained before 3 minutes (physical restriction) in the morning from the coccygeal vein. Serum cortisol (ng/dL) was measured employing electrochemiluminescence immunoassay (Roche Diagnostic; previously validated). Generalized linear mixed model analysis were applied and LSD Fisher test. Seasonal changes in: creatinine (winter<others seasons; $p=0.02$), total protein (autumn < winter and summer < spring: $p=0.009$), albumin (autumn < others seasons; $p=0.005$), and percent eosinophils (range: 0-4%). No seasonal changes (mean \pm SD) were found in body weight (7.9 \pm 1.4 kg), temperature (33.9 \pm 0.8 °C), or cortisol concentrations (33.2 \pm 13.7). Statistical analysis revealed differences in cortisol according to sex (male: 41.3 \pm 11.3 > female: 18.1 \pm 7.4; $p=0.01$). This study did not reveal seasonal differences in most welfare measurements. Observed values were within the range previously reported for this species, indicating that animals were healthy throughout the study period. The serum cortisol range could be a first (gender-dependent) reference value for assessing individual well-being. Finally, this study contributes not only to individual health monitoring but also provides relevant information for conservation programs for these species.