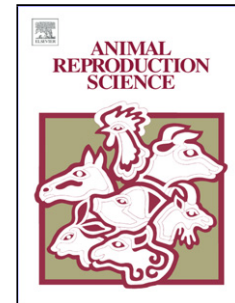


## Accepted Manuscript

Title: Prolonged luteal lifespan and pseudopregnancy in Asian elephants (*Elephas maximus*)

Authors: Imke Lueders, Cheryl Niemueller, Hanspeter W. Steinmetz, Tim Bouts, Charlie Gray, Tobias Knauf-Witzens, Kazuyoshi Taya, Gen Watanabe, Yuki Yamamoto, Ann-Kathrin Oerke



PII: S0378-4320(18)30468-8  
DOI: <https://doi.org/10.1016/j.anireprosci.2018.08.008>  
Reference: ANIREP 5910

To appear in: *Animal Reproduction Science*

Received date: 8-5-2018  
Revised date: 21-7-2018  
Accepted date: 7-8-2018

Please cite this article as: Lueders I, Niemueller C, Steinmetz HW, Bouts T, Gray C, Knauf-Witzens T, Taya K, Watanabe G, Yamamoto Y, Oerke A-Kathrin, Prolonged luteal lifespan and pseudopregnancy in Asian elephants (*Elephas maximus*), *Animal Reproduction Science* (2018), <https://doi.org/10.1016/j.anireprosci.2018.08.008>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Prolonged luteal lifespan and pseudopregnancy in Asian elephants (*Elephas maximus*)

Imke Lueders<sup>a\*</sup>, Cheryl Niemueller<sup>b</sup>, Hanspeter W. Steinmetz<sup>c</sup>, Tim Bouts<sup>d</sup>, Charlie Gray<sup>e</sup>, Tobias Knauf-Witzens<sup>f</sup>, Kazuyoshi Taya<sup>g</sup>, Gen Watanabe<sup>g</sup>, Yuki Yamamoto<sup>g,h</sup>, Ann-Kathrin Oerke<sup>i</sup>

<sup>a</sup>Endocrine Research Laboratory, Department of Anatomy and Physiology, Faculty of Veterinary Science, University of Pretoria, Private Bag X04, Onderstepoort 0110, South Africa

<sup>b</sup>Conservation Biology Laboratory, 6 Kingfisher International, Inc., Stouffville, Ontario, Canada

<sup>c</sup>Chester Zoo, Moston Rd, Upton-by-Chester, Chester CH2 1EU, UK

<sup>d</sup>Park Pairi Daiza, Domaine de Cambron in B-7940 Brugelette, Belgium

<sup>e</sup>African Lion Safari, 1386 Cooper Road, Cambridge, ON, N1R 5S, Canada

<sup>f</sup>Wilhelma, Zoologisch-Botanischer Garten, 70342 Stuttgart, Germany

<sup>g</sup>Tokyo University of Agriculture and Technology, Tokyo, Japan

<sup>h</sup>Graduate School of Environmental and Life Science, Okayama University, 700-8530, Okayama, Japan

<sup>i</sup>German Primate Center, European Elephant Service, 37077 Goettingen

\*Corresponding author: Endocrine Research Laboratory, Department of Anatomy and Physiology, Faculty of Veterinary Science, University of Pretoria, Private Bag X04, Onderstepoort 0110, South Africa; E-mail address: imke.lueders@geolifes.com

### Highlights

- Persistent corpora lutea and prolonged luteal lifespan occur in elephants
- First confirmation of the occurrence of hyperprolactinemiae in Asian elephants
- Multiple corpora lutea may be active and secrete progestagens for up to 16 months

### ABSTRACT

Pseudopregnancy is a physiological occurrence in mammals which have copulation induced ovulation, but is rarely described in spontaneous ovulating species. In this study, three cases of prolonged luteal lifespan are reported in non-pregnant Asian elephants (*Elephas maximus*). Case 1 was a 25-year-old female that had produced three calves previously; Case 2 was a nulliparous and 32-year-old at the start of the pseudopregnancy episode; and Case 3 occurred in a 49-year-old nulliparous elephant. Serum progesterone metabolite concentrations remained elevated for 10 months in Case 1. Urinary progestagens were high for >16 months in Case 2 and for five months in Case 3. In Case 1, multiple persistent corpora lutea were visualized monthly by ultrasonography. In all three cases, uterine leiomyoma were present and

Download English Version:

<https://daneshyari.com/en/article/10157347>

Download Persian Version:

<https://daneshyari.com/article/10157347>

[Daneshyari.com](https://daneshyari.com)