

Scientists observe reproductive seasonality in male giant pandas

April 4 2012



The state-of-the-art Chengdu Research Base of Giant Panda Breeding has provided an unprecedented opportunity for researchers to study multiple pandas in a single location. Credit: Zhang Zhihe, Chengdu Research Center for Panda Breeding.

A three-year study of giant pandas published today in *Biology of Reproduction's Papers-in-Press* reveals that reproductive seasonality exists not only in female pandas, but in male pandas as well.

According to the authors of the study, this new understanding of the regulators of male reproductive function will allow continued improvement of the captive panda management program and will, one day, assist in reintroducing [pandas](#) into the wild.

The [giant panda](#) is a specialized bear whose wild habitat now consists of

only a few mountain ranges in central China. Attempts at preserving this endangered species have met with varying success, but over the last decade, substantial progress in giant panda breeding within China has resulted in a significant increase in the population of captive pandas.

Female panda reproduction has been thoroughly studied, and it is well known that a panda's estrus, the state of sexual excitement that immediately precedes ovulation, occurs only once a year, sometime between February and May, and lasts only 24 to 72 hours. Few studies have examined male reproductive capacity and physiology in similar detail, and none involved sample sizes larger than one or two individuals.

Now, an international research team led by Dr. Copper Aitken-Palmer of the Smithsonian Conservation Biology Institute and Dr. Rong Hou of the Chengdu Research Base of Giant Panda Breeding, along with senior researchers Drs. David Wildt, Mary Ann Ottinger, and the late JoGayle Howard, has published the results of their study of eight male giant pandas in a captive [breeding center](#) in China.

The team evaluated the interrelated seasonal changes in male panda androgen levels, sperm concentration, testes size, and [reproductive behavior](#), and found that unlike what is found for females, [reproductive fitness](#) in the male giant panda varies throughout the year. Waves in male giant panda reproductive activity occurred 3 to 5 months before the interval when most females displayed their estrus, presumably in order to prepare for and then accommodate the brief and unpredictable female estrus.

These findings not only fill a knowledge gap, but the authors believe that they can be used to help researchers collect and preserve only the highest-quality panda spermatozoa for artificial insemination, an increasingly important tool in genetic diversity management within the captive panda population.

More information: "Reproductive Seasonality in the Male Giant Panda", *Biology of Reproduction* (in press).

Provided by Society for the Study of Reproduction

Citation: Scientists observe reproductive seasonality in male giant pandas (2012, April 4)
retrieved 19 April 2024 from
<https://phys.org/news/2012-04-scientists-reproductive-seasonality-male-giant.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.