

Les pangolins en captivité

Résumé historique de la reproduction et de la survie dans les zoos

Frank Kohn
Fish & Wildlife Service des Etats-Unis
Organe de gestion CITES



Rapport sur la présentation de la population

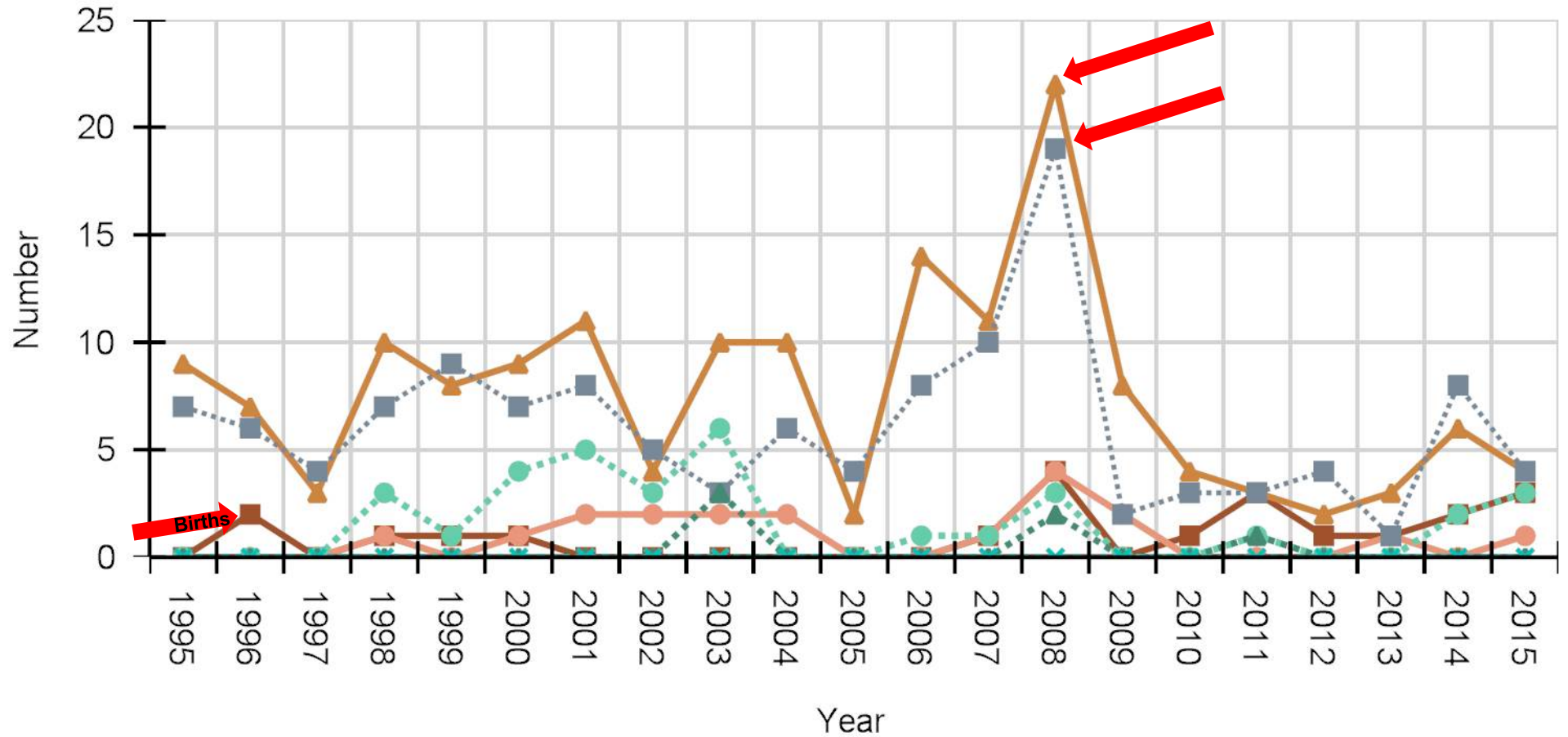
1954 - présent

Données de population et données sur les indicateurs de qualité

Total du registre des individus	297
Individus en vie	
Fondateurs	(>=) 4.6.0 = 10 Total
Individus en vie	21.23.1 = 45 Total
Descendants en vie (des Fondateurs)	(>=)2.1.0 = 3 Total
Reproducteurs en vie	3.8.0 = 11 Total
Nés en captivité, en vie	4.3.0 = 7 Total
Nés dans la nature, en vie	16.19.1 = 36 Total



Acquisitions (A) and Dispositions (D) by Year



Disclaimer: These tables and figures are based on institutional data submitted to ISIS, not studbook data.

Copyright, ISIS, 2015. All rights reserved.



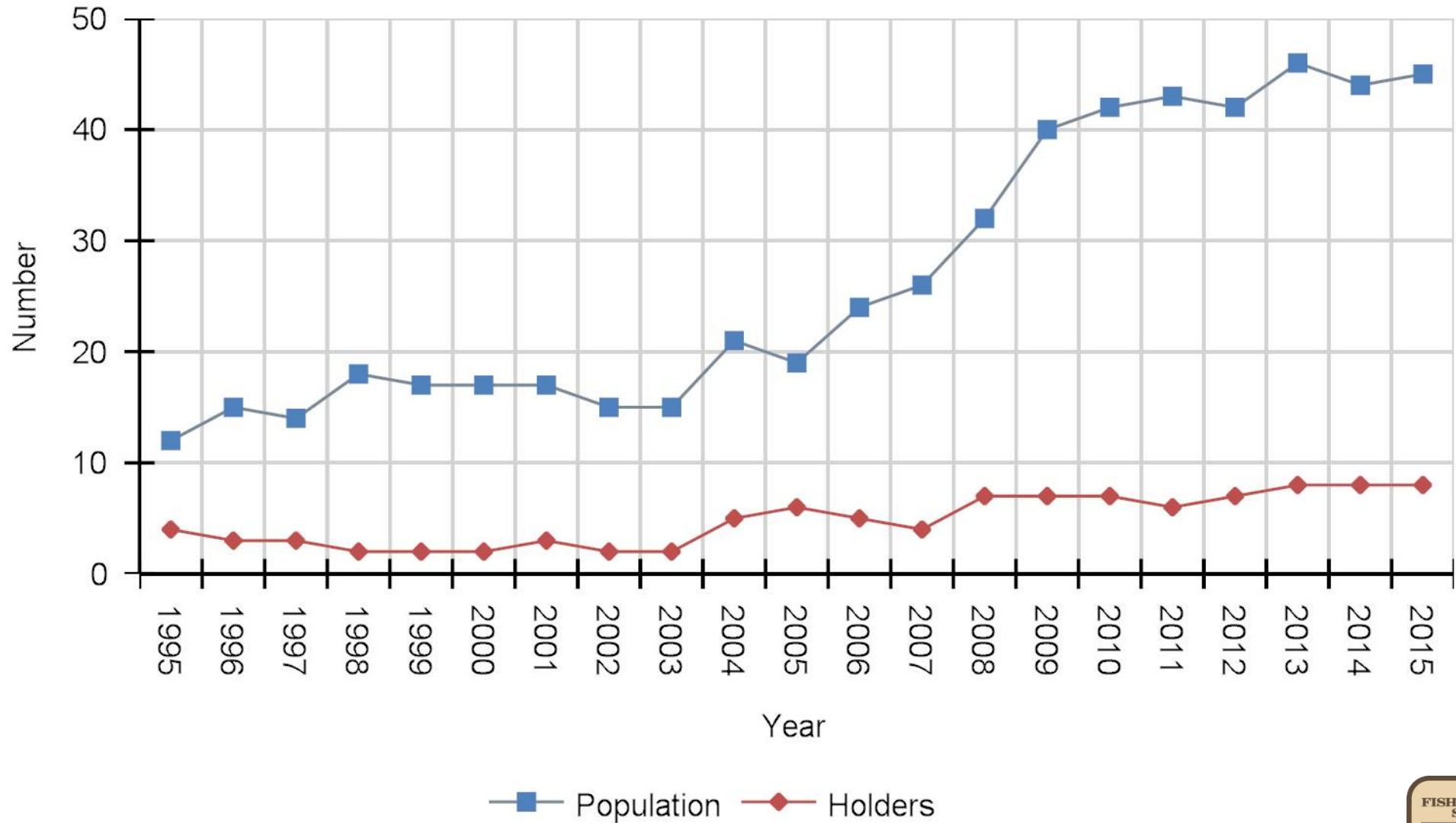
Rapport sur la présentation de la population

pour *Manis / Pangolin* De : 2 juin 1995 - 2 juin 2015

Sous-ensemble de population : Tous les Membres ISIS (909)



Population and Holders by Year



Disclaimer: These tables and figures are based on institutional data submitted to ISIS, not studbook data.

Copyright, ISIS, 2015. All rights reserved.

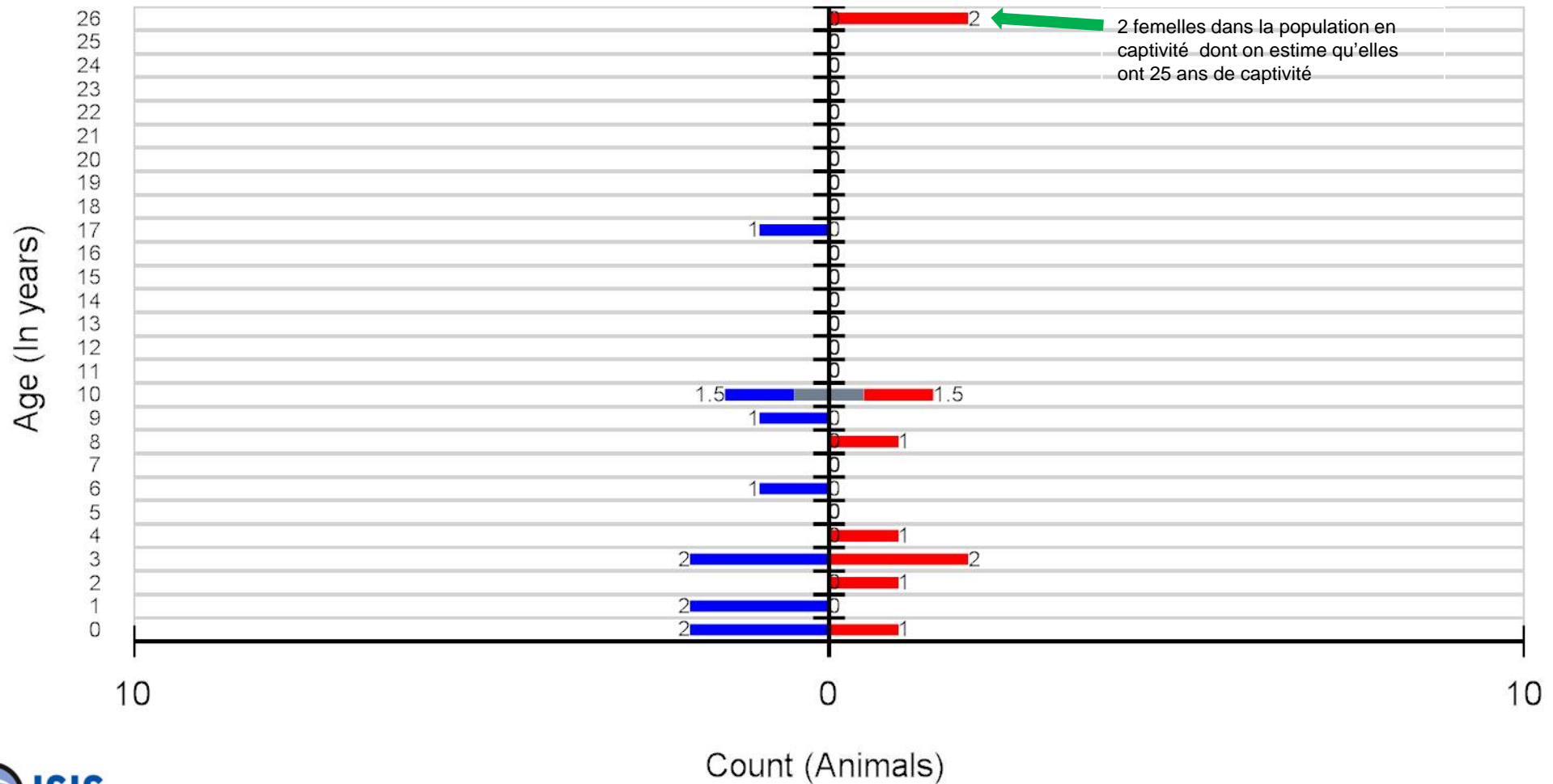


Rapport sur la présentation de la population

pour *Manis / Pangolin* De : 2 juin 1995 - 2 juin 2015

Sous-ensemble de population : Tous les Membres ISIS (909)

Animal Age Graph / Live Animals



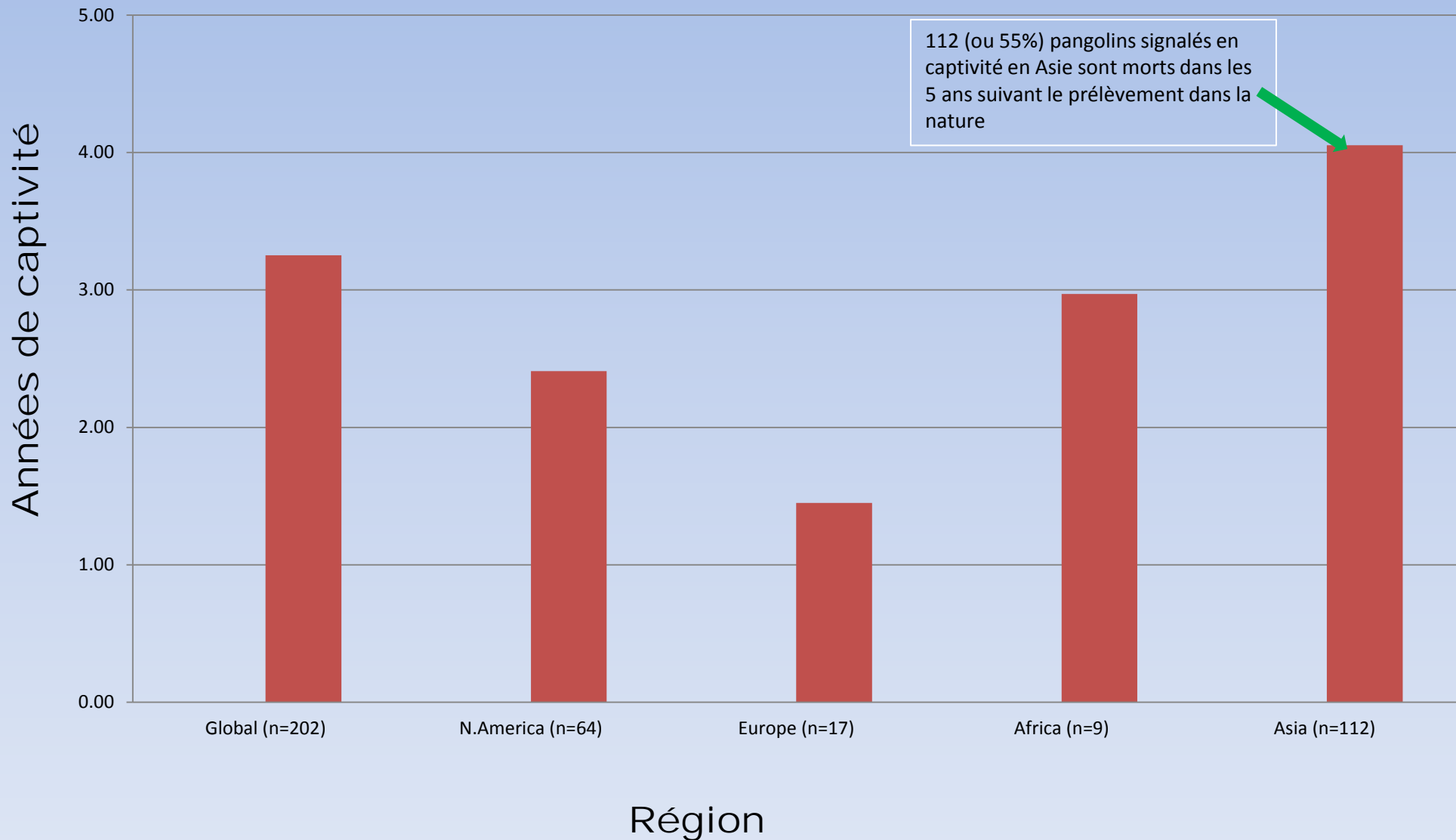
Unknown/Other
 Male
 Unknown/Other
 Female

Disclaimer: These tables and figures are based on institutional data submitted to ISIS, not studbook data.

Copyright, ISIS, 2015. All rights reserved.



Années de captivité en moyenne à la mortalité - Pangolins



Zoos avec des spécimens nés en captivité et survivants

Zoo de Singapour

1.1

Un spécimen né en captivité mais élevé dans la nature
Un spécimen élevé en captivité (F1)

Zoo de Taipei

2.2.1

Deux étaient des spécimens élevés en captivité (F1)
Trois étaient des spécimens élevés en captivité au moins de seconde génération (F2)

~10% des 297 pangolins sont nés en captivité sur une période de 61 ans



Recherche concernant la captivité

ZooKeys 507: 1–14 (2015)
doi: 10.3897/zookeys.507.6970
http://zookeys.pensoft.net

REVIEW ARTICLE

A peer-reviewed open-access journal
ZooKeys
Launched to accelerate biodiversity research

Zoo Biology 26:223–230 (2007)



Technical Review

History and Dietary Husbandry of Pangolins in Captivity

Ci Wen Yang,^{1,2*} Suming Chen,² Chi-Yen Chang,³ Mei Fong Lin,³ Erik Block,⁴ Ronald Lorentsen,⁴ Jason S.C. Chin,¹ and Ellen S. Dierenfeld⁵

¹Tainan Zoo, Tainan, Taiwan

²Dé

Na

³Dé

⁴Ré

⁵Dé

Zoo Biology 31 : 206–218 (2012)

BRIEF REPORT

Time-Budgets and Activity Patterns of Captive Sunda Pangolins (*Manis javanica*)

Daniel W. S. Challender,^{1*} Nguyen Van Thai,² Martin Jones,³ and Les May³

¹Durrell Institute of Conservation and Ecology (DICE), School of Anthropology and Conservation, University of Kent, Canterbury, Kent, United Kingdom

²Carnivore and Pangolin Conservation Programme, Cuc Phuong National Park, GPO, Ha Noi, Vietnam

³Division of Biology, School of Biology, Chemistry and Health Science, The Manchester Metropolitan University, John Dalton Building, Chester Street, Manchester, United Kingdom

This is the first assessment of *Manis javanica* behavior in captivity. The aim of the investigation was to assess behavior in order to suggest ways of improving captive care and management of the species. This was undertaken by constructing time-budgets and activity patterns and identifying any abnormal repetitive behavior (ARB) exhibited. Scan and focal animal sampling were implemented in observations of seven subjects. Analyses detailed idiosyncrasies in how subjects partitioned their active time. Peak activity occurred between 18:00 and 21:00 hr. Two ARBs, clawing and pacing, were identified and the cessation of clawing in one subject was possible by modifying its enclosure. Stress-related behavior, understood to be related to several factors, means maintaining this species in captivity remains problematic. Recommendations are made pertaining to husbandry, captive management, and future research. Zoo Biol 31:206–218

Captive breeding of pangolins: current status, problems and future prospects

Liushuai Hua^{1,2,3}, Shiping Gong^{1,2,3}, Fumin Wang⁴, Weiye Li¹, Yan Ge¹, Xiaonan Li¹, Fanghui Hou⁴

¹ Guangdong Entomological Institute (South China Institute of Endangered Animals), No. 105, Xin Gang Road West, Guangzhou 510260, China ² Guangdong Public Laboratory of Wild Animal Conservation and Utilization, Guangzhou 510260, China ³ Guangdong Key Laboratory of Integrated Pest Management in Agriculture, Guangzhou 510260, China ⁴ Guangdong Provincial Wildlife Rescue Center, Guangzhou 510520, China

Folia Zool. – 63 (2): 73–80 (2014)

Husbandry, behaviour and conservation breeding of Indian pangolin

Rajesh K. MOHAPATRA^{1*} and Sudarsan PANDA²

¹ Nandankanan Zoological Park, Barang, Khurda, 754005 Odisha, India; e-mail: rajesh.wildlife@gmail.com
² Nandankanan Zoological Park, Mayur Bhawan, Saheed Nagar, 751007 Bhubaneswar (Odisha), India; e-mail: sudarsanpanda61@gmail.com

Received 11 July 2013; Accepted 27 November 2013

Abstract. Little is known about the biology of Indian pangolins (*Manis crassicaudata*) both in captivity and wild. Nandankanan Zoological Park, India (NKZP) is maintaining Indian pangolin in captivity since last 50 years (1962–2013). The housing, husbandry and behavioural observations that have contributed to successful upkeep and breeding of Indian pangolins at NKZP are described in the present paper. The successful maintenance and breeding of this elusive nocturnal species indicate that it can survive in captivity with application of established care techniques. The species can be maintained more successfully in captivity with provisions for their unique biological and behavioural needs.

Key words: *Manis crassicaudata*, diet, veterinary care, captive breeding, Nandankanan Zoological Park

Introduction

Indian pangolin (*Manis crassicaudata* Gray, 1827) is one of the eight living species of pangolins of the world belonging to the family Manidae of order Pholidota (Wilson & Reeder 2005). They are toothless mammals with 11–13 rows of large overlapping horny scales, long protrusible tongue and prehensile tail with a terminal scale on its ventral side (Pocock 1924, Heath 1995). They are distributed throughout peninsular India, Sri Lanka, Bangladesh and Pakistan (Prater 2005, Mishra & Panda 2012). Their populations are increasingly under threat throughout their range due to domestic and international demand for live pangolins, their skin, scales and meat. The biology of Indian pangolins particularly, low reproductive rate and a wide distribution make them vulnerable to over-exploitation (Mishra & Panda 2012). Considering the vulnerability, Indian pangolins are included in the Schedule I of the Wildlife (Protection)

zoos can contribute to conservation of the pangolin through an increased understanding of its behaviour, nutrition, reproduction and health care. Nandankanan Zoological Park (NKZP) is one of the premier large zoos in India. The zoo is located near the Bhubaneswar city of Odisha in eastern India between 20°23'8" to 20°24'10" north latitude and 85°48'9" to 85°48'13" east longitude. This zoo comes under the geographical distribution range of Indian pangolins. Indian pangolins are being maintained since 1962 in NKZP. In 2008, a Pangolin Conservation Breeding Centre (PCBC) was established in an off exhibit area of NKZP with financial assistance from Central Zoo Authority (CZA), New Delhi with the objectives of developing proper methodology for housing, up-keeping, husbandry and captive breeding of Indian pangolins. The present paper reports husbandry, behavioural biology, veterinary care and conservation breeding of Indian pangolins at NKZP.

Facteurs ayant des effets sur la survie en captivité

- Alimentation
- Stress
- Aménagement
- Transport



Appui scientifique

- Le plan de conservation du Groupe de spécialistes des pangolins de la CSE de l'UICN classe le développement de protocoles pour la reproduction de pangolins à des fins de conservation en priorité 4, le niveau de classification le plus bas.
- Le comité consultatif de taxon (TAG) pour les pangolins, tatous et Xenarthrae (PAX) de AZA ne soutient pas, actuellement, l'acquisition de pangolins en Amérique du Nord.





Conclusions

- Les naissances de pangolins dans les zoos ou centres de secours sont rares et dans la plupart des cas, accidentelles. Les chances de survie sont très limitées.
- Bien que des cas d'animaux en captivité avec une grande longévité aient été enregistrés, ces individus sont des exceptions et selon les données, la survie moyenne en captivité est de moins de 5 ans.