

EAZA Yearbook 2007/2008

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<http://www.eaza.net/activities/cp/Pages/yearbook.aspx>

EAZA Pig and Peccary TAG

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EAZA Pig and Peccary TAG Annual Report 2007 - 2008



1. Information on organisation, structure and activities of the TAG

- TAG chair:** Alastair Macdonald, Edinburgh-uni_NE alastair.macdonald@ed.ac.uk
- TAG vice-chair:** Peter Bircher, Marwell peterb@marwell.org.uk
Thomas Kauffels, Kronberg Thomas.Kauffels@opel-zoo.de
- TAG members:** Angela Glatston (Rotterdam)
Jochen Reiter (Duisburg)
Kathleen Standen (Edinburgh)
- TAG advisors:** **General**
Behavioural
Taxonomy
Veterinary
Nutritional
Conservation
Research
Educational
- Current EEPs:** Babirusa (*Babyrusa babyrussa*)
Visayan warty pig (*Sus cebifrons negrinus*)
- Current ESBs:** Warthog (*Phacochoerus africanus*)
- TAG meeting:** Date of last meeting: 20 September 2008
Last meeting hosted at Antwerpen Zoo (Royal Zoological Society of Antwerp).
- Regional Collection Plan:** Has a RCP been published? No
- Publications:** Macdonald, A.A. & Gansloßer, U. (2008). Wilde Schweine und Flusspferde, Filander Verlag: Fürth.
Macdonald, A.A., Mitchell, S. Signorella, A, and Leus, K. (2008). Ultrastructural characterization of the epithelium that constitutes the cardiac gland epithelium 'honeycomb' in the stomach of the babirusa (*Babyrusa babyrussa*). *Comptes Rendus Biologies*, 331, 32-41.
Clauss, M., Nijboer, J., Loermans, J.H.M., Roth J., Van der Kuilen J., Beynen, A.C. (2008). Comparative digestion studies in wild suids at Rotterdam Zoo. *Zoo Biology* 27, 305-319.
Suiform Soundings 8(1) July 2008.
[http://data.iucn.org/themes/ssc/sgs/pphsg/Suiform%20soundings/Newsletter%208\(1\).pdf](http://data.iucn.org/themes/ssc/sgs/pphsg/Suiform%20soundings/Newsletter%208(1).pdf)
Suiform Soundings 8(2) January 2009
[http://data.iucn.org/themes/ssc/sgs/pphsg/Suiform%20soundings/Newsletter%208\(2\).pdf](http://data.iucn.org/themes/ssc/sgs/pphsg/Suiform%20soundings/Newsletter%208(2).pdf)

2. Information on developments during 2007 - 2008

IUCN Red Data Book:

Kristin Leus presented the new IUCN Red Data Book status of the pigs and peccaries species in the wild. There were no changes to the African species but various changes to the others. It was noted that there were taxonomic issues regarding the babirusa, with new full-species status for the 'hairy' babirusa from Buru and Sula, the Togian Islands babirusa and the Sulawesi babirusa (which includes the zoo population).

Full details of changes can be found on the IUCN website from 6th October 2008. A related article of interest is soon to be published in Science - "The status of the world's land and marine mammals"

Species reports:

Babirusa:

Thomas Kaufels provided status reports up to the end of 2007 and the end of August 2008. There is a continued decline in population size within the EEP. As many animals as possible will be paired. There are 69 in SE Asia and an additional 44 animals outside the EEP.

There was discussion regarding introducing new stock to the EEP. Numbers are more important than genetics at this stage; there is still a hope to get animals from Surabaya, which can be quarantined through Frankfurt/Poznan. Thomas will continue to pursue this. He will establish a new EEP committee before next year's EAZA Annual Conference. He is also working with Radoslav on the details of importations into Europe. Singapore have paired all their females, have already had two births and are willing to assist. Doug Richardson reassured the meeting that Singapore is a reliable institution to work with and that they can provide a list of species that they are interested in breeding. There is already a proposed move of red river hog to Singapore. Alastair encouraged such movements of animals to be organised on behalf of EAZA rather than individual institutions. A number of zoos have already offered to meet transport costs, and any imported babirusa will go to institutions with previous exotic pig experience, especially with babirusa. Thomas will compile a list of suitable institutions. Peter Galbusera requested that any new animals be sampled for genetic analysis on transport to the EEP. The close co-operative relationship with Jeff Holland (Los Angeles) and the AZA babirusa population was stressed. Kristin has oversight and can advise on the breeding management of these small populations.

Visayan warty pig:

Angela Glatston reported four births this year (twins Rotterdam, died and twins Edinburgh, survived). There were transfers to Apenheul and to Parken Zoo in Sweden. Husbandry guidelines are in preparation.

Red river Hog:

Jochen Reiter presented data from the past year. There are increasing numbers of institutions interested in holding this species, with eight current holders and seven on a waiting list. Mixed exhibits are common, e.g. with giraffe, zebra, rhino, cattle. Jochen offered to find out which institutions are currently holding RRH in mixed exhibits.

Imports/exchanges with the Los Angeles zoo will go ahead.

Due to a rapidly increasing population (numbers have doubled in the last few years to 117) there had been a request to change this ESB into an EEP to allow more intensive management. It had been agreed to be appropriate and Jochen will proceed to request this change. There was discussion regarding the options for limiting population size, with contraception seen to be risky as females sometimes fail to re-start cycling when it is withdrawn. Concerns were also expressed about single-sex groups as stopping a female from breeding can lead to a failure to start again when it is needed. Various thoughts were expressed about a breed and cull policy. A paper recently published in Germany was referred to that deals with the issue of EEP surpluses. Alastair Macdonald will prepare a draft paper in relation to this issue with regard to pigs and peccaries in general and circulate it to TAG members for comments.

The International Studbook is published up to 1/8/08 – a PDF is available from Jochen (reiter@zoo-duisburg.de).

Warthog:

Darren McGarry presented an update of this ESB on behalf of Kathleen Standen. The studbook will be updated as of the end 2008 and published in Feb 2009. Kathleen would like to hear from holders of any omissions/errors and anyone looking for advice on movements, culls, castrations, etc. There was discussion regarding payments made to an organisation in the Gambia for warthog. It had been common in the past but it is now unclear if it should happen and where the money goes. Alastair Macdonald offered to assist Kathleen to investigate and resolve this issue.

Bearded pig:

This species is still held in a few European institutions. In the past it had been monitored by Berlin Zoo but recently was not often reported on. A name was put forward of someone who would approach Berlin to find out current numbers. The situation will be reviewed with the new Regional Collection Plan.

Eurasian wild pig:

There are still around 300 animals held in European zoos. Doug Richardson suggested a possible student project to establish the incidence of hybrids within the population by taking photographs of zoo animals.

Pygmy hog:

It is not currently possible to export any from Assam and this situation is unlikely to change. Permission had recently been given to release captive bred animals back into their natural habitat in the wild. The conservation breeding of this species will continue with a view to further releases. The most recent update on this species has just been published in the book 'Wilde Schweine und Flusspferede' (Eds. Alastair A Macdonald and Udo Ganslosser) Filander Verlag.

Chacoan peccary:

Jeff Holland from the LA zoo reported that North American institutions are still trying to breed these. There have been losses of some genetic lines and no animals are currently available. Radoslav R. mentioned the possibility of getting this species direct from Paraguay. There was mention that females of this species can also fail to start cycling again after contraception or lack of active breeding activity. Gonzalo Fernandez-Hoyo reported that there had been no interest in keeping this species in the Southern European area when he carried out a detailed survey of holders of other peccary species. Koen Brouwer had offered to look into this further.

Collared peccary:

Not recommended.

White-lipped peccary:

Pending. The change in IUCN status of this species will be discussed during the regional collection plan process.

In situ conservation projects:

Roland Wirth reported that Javan Warty Pig numbers have fallen by 80% in the last 20 years and that there may have been

hybridisation between JWP and *Sus scrofa*. An animal rescue facility set up initially by Willie Smits at Cikananga has now been privatised and is holding an old male Javan Warty Pig from Ragunan zoo and 3 wild-caught animals. It is reported to be well-run and less bureaucratic than the zoos in the area. It has been funded by the Los Angeles zoo, and Singapore zoo may also contribute in the future. Doug Richardson suggested this would be a safe enterprise to invest in. Gono Semiadi from LIPI is involved.

Alastair gave a brief account of a facility on Bali run by Masaaki Ito. He is holding babirusa supplied originally by Surabaya Zoo. There has already been breeding of F2, and had stopped temporarily because of space issues which might be resolved if the youngsters could be placed in Cikananga or go elsewhere. Some funding from American sources for the associated in situ babirusa project on the Togian Islands was mentioned.

3. TAG goals for 2009

EEP evaluation:

- The Babirusa EEP is currently being evaluated. Thomas Kauffels requested that the paperwork be sent back to the EAZA office through the TAG chair;
- The Visayan warty pig EEP will be evaluated in 2009;
- Once established, the Red river hog EEP will likely be evaluated in 2011.

Regional Collection Plan:

In general, institutions have been following the RCP recommendations. Alastair reported that the revised RCP will be prepared in 2009-2010 in line with the 'new' format. The North American RCP is already revised.

Research & reports:

Babirusa - further comprehensive genetic work is underway, which includes the study of material from museum specimens.



Babirusa

EEP Annual Report 2007 - 2008



1. Programme information

Babirusa

Babirusa babirusa

EEP established in 1985.

Goal(s)

Percentage of gene diversity 90% saved in 100 years.

2. Programme personnel

Species Coordinator

Thomas Kauffels (Kronberg)

Species Committee members

David Gill (Dalton-furness)

Lubomir Moudry (Decin)

Stefan Stadler (Frankfurt)

Gonzalo Fernandez-Hoyo (Fuengirola)

Peter Bircher (Marwell)

Angela Glatston (Rotterdam)

Neil Dorman (Twycross)

Ulrich Schürer (Wuppertal)

Veterinary advisor

Alastair Macdonald (Edinburgh-uni_NE)

3. Activities

Species Committee

Last election: 2004

Last meeting: 31 January 2003 Stuttgart

Conservation activities

Not specified.

Research activities

Not specified.

4. Publications

Studbook

Recent edition: 2008

Next edition: 2011

Husbandry guidelines

Not yet published.

5. Status

Status and developments over the year 2007 - 2008

Babirusa
Babyrousa babyrussa

New	No reply	Participants	Status 1 Jan.	Births (DNS)	EAZA zoos		non-EAZA zoos		Deaths	31. Dec.
					In	Out	In	Out		
		ANTWERPEN	1.0.0	0.0.0 (0.0.0)	0.1.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		BERLIN-ZOO	2.3.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	2.3.0
		BUDAPEST	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		CHAMPREPUS	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.1.0	1.0.0
		CHESTER	0.1.0	1.0.0 (0.0.0)	2.0.0	0.0.0	0.0.0	0.0.0	1.0.0	2.1.0
		DALTON-FURNESS	3.1.0	1.3.0 (0.1.0)	0.0.0	1.0.0	0.0.0	0.0.0	1.0.0	2.3.0
		DECIN	2.1.0	0.0.0 (0.0.0)	1.0.0	1.0.0	0.0.0	0.0.0	1.0.0	1.1.0
		DUDLEY	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		FRANKFURT	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		FUENGIROLA	1.1.0	0.0.1 (0.0.1)	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0	0.0.0
		GREAT-YARMOUTH	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		JIHLAVA	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		KOBENHAVN-ZOO	1.0.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	1.0.0	0.0.0
		KREFELD	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		MADRID-ZOO	1.0.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.0.0
		MARWELL	2.1.0	0.0.0 (0.0.0)	0.0.0	1.0.0	0.0.0	0.0.0	0.1.0	1.0.0
		ST-MARTIN-PLAIN	1.1.0	0.0.0 (0.0.0)	1.0.0	1.0.0	0.0.0	0.0.0	1.1.0	0.0.0
		STUTTGART	2.2.0	0.0.0 (0.0.0)	0.0.0	0.1.0	0.0.0	0.0.0	0.0.0	2.1.0
		TWYXCROSS	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		USTI-NAD-LABEM	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		WUPPERTAL	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	1.0.0	0.1.0
		Total (21)	26.21.0	2.3.1 (0.1.1)	4.1.0	4.1.0	0.0.0	0.0.0	7.4.0	21.19.0

Summary

The EEP population is very old and has an extremely low birth rate. There are only few animals (especially females) in breeding age. The population is still declining. Imports of new founders are needed to sustain the babirusa population in the EEP.

Notes

Husbandry guidelines are in preparation.



Visayan warty pig

EEP Annual Report 2007 - 2008



1. Programme information

Visayan warty pig

Sus cebifrons nigrinus

EEP established in 2007.

Goal(s)

Percentage of gene diversity 90% saved in 100 years.

2. Programme personnel

Species Coordinator

Angela Glatston (Rotterdam)

3. Activities

Species Committee

Last election: No election ever held.

Last meeting:

Conservation activities

All pigs in this programme remain the property of the Philippine government. All zoos participating in the programme and receiving pigs are expected to contribute to the Philippines Biodiversity Conservation Programme.

Research activities

Not specified.

4. Publications

Studbook

Recent edition: Not yet published.

Next edition: 2010

Husbandry guidelines

Not yet published.

5. Status

Status and developments over the year 2007 - 2008

Visayan warty pig

Sus cebifrons nigrinus

New	No reply	Participants	Status 1 Jan.	Births (DNS)	EAZA zoos		non-EAZA zoos		Deaths	31. Dec.
					In	Out	In	Out		
		APELDOORN	3.0.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	3.0.0
		CHESTER	2.2.0	2.1.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	4.3.0
		EDINBURGH	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
*		ESKILSTUNA	0.0.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
*		NEWQUAY	0.0.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		POZNAN	2.2.0	0.1.0 (0.0.0)	0.0.0	1.1.0	0.0.0	0.0.0	0.0.0	1.2.0
		ROTTERDAM	5.6.0	2.2.0 (0.0.0)	0.0.0	1.1.0	0.0.0	0.0.0	0.0.0	6.7.0
		Total (7)	13.11.0	4.4.0 (0.0.0)	2.2.0	2.2.0	0.0.0	0.0.0	0.0.0	17.15.0

Summary

The EEP was established late 2007 and active managed started in 2008.



Red river hog

EEP Annual Report 2007 - 2008



1. Programme information

Red river hog

Potamochoerus porcus pictus

EEP established in 2001.

Goal(s)

Percentage of gene diversity 90% saved in 100 years.

Additional comments

The main problem of the population is the low number of founders in combination with a high level of inbreeding. The primary goal is to import unrelated animals from the population in North America and to identify/compose high priority pairs and groups with which to breed. As the studbook had been upgraded to EEP level, a Species Committee is to be elected soon. A Veterinary advisor will be nominated, too. Studbook analysis is of great importance resulting in masterplanning and sending out recommendations to holders. In the long run, husbandry guidelines need to be compiled.

2. Programme personnel

Species Coordinator

Jochen Reiter (Duisburg)

3. Activities

Species Committee

Last election:

Last meeting:

Conservation activities

Not specified.

Research activities

Not specified.

4. Publications

Studbook

Recent edition: 2008

Next edition: 2010

Husbandry guidelines

Not yet published.

5. Status

Status and developments over the year 2007 - 2008

Red river hog
Potamochoerus porcus pictus

New	No reply	Participants	Status 1 Jan.	Births (DNS)	EAAZ zoos		non-EAAZ zoos		Deaths	31. Dec.
					In	Out	In	Out		
		AMNEVILLE	2.1.0	2.8.1 (0.5.1)	0.1.0	2.1.0	0.0.0	0.0.0	1.1.0	1.3.0
		BEKESBOURNE	1.1.0	6.2.0 (1.1.0)	0.0.0	3.0.0	0.0.0	0.0.0	0.0.0	3.2.0
		BELFAST	1.1.0	0.2.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.3.0
		BERLIN-ZOO	1.1.0	2.1.0 (2.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.1.0	1.1.0
		BLACKPOOL	1.1.0	1.3.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	2.4.0
*		BUDAPEST	0.0.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
*		CAMBRON-CASTEAU	0.0.0	0.0.0 (0.0.0)	2.3.0	0.0.0	0.0.0	1.0.0	0.0.0	1.3.0
		CHESTER	1.5.0	0.0.0 (0.0.0)	1.0.0	1.2.0	0.0.0	0.0.0	0.0.0	1.3.0
		COLCHESTER	1.2.0	5.7.2 (1.1.2)	0.0.0	0.0.0	0.0.0	0.0.0	0.3.0	5.5.0
		DUBLIN	2.0.0	1.2.0 (1.0.0)	0.1.0	1.0.0	0.0.0	0.0.0	0.0.0	1.3.0
		DUISBURG	8.11.0	13.14.1 (11.9.1)	0.0.0	3.1.0	0.0.0	1.1.0	2.0.0	4.14.0
		DVUR-KRALOVE	2.1.0	0.0.0 (0.0.0)	0.1.0	0.0.0	0.0.0	0.0.0	0.0.0	2.2.0
		EDINBURGH	1.2.0	0.0.0 (0.0.0)	2.1.0	1.1.0	0.0.0	0.0.0	0.0.0	2.2.0
*		EMMEN	0.0.0	0.0.0 (0.0.0)	0.3.0	0.0.0	0.0.0	0.0.0	0.0.0	0.3.0
		FUENGIROLA	5.3.0	1.1.0 (0.0.0)	0.0.0	1.4.0	0.0.0	0.0.0	0.0.0	5.0.0
		HAMBURG	1.2.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.2.0
*		HAMERTON	0.0.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		KERKRADE	2.3.0	6.13.0 (3.3.0)	0.0.0	2.7.0	0.0.0	0.0.0	1.0.0	2.6.0
		KREFELD	1.1.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		KRENGLBACH	4.4.0	1.0.0 (0.0.0)	0.0.0	3.1.0	0.0.0	1.1.0	0.0.0	1.2.0
		LANDAU	1.1.0	4.3.1 (3.1.1)	0.0.0	1.2.0	0.0.0	0.0.0	0.0.0	1.1.0
*		LISIEUX	0.0.0	0.0.0 (0.0.0)	1.4.0	0.1.0	0.0.0	0.0.0	0.0.0	1.3.0
*		LODZ	0.0.0	0.0.0 (0.0.0)	1.2.0	0.0.0	0.0.0	0.0.0	0.0.0	1.2.0
		LONDON	1.3.0	2.0.4 (0.0.4)	0.0.0	0.2.0	0.0.0	0.0.0	0.0.0	3.1.0
		LYMPNE	1.1.0	0.0.0 (0.0.0)	1.0.0	0.0.0	0.0.0	0.0.0	1.1.0	1.0.0
		MADRID-ZOO	2.0.0	0.1.0 (0.1.0)	0.1.0	1.0.0	0.0.0	0.0.0	0.0.0	1.1.0
		MAGDEBURG	1.0.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	1.0.0	1.1.0
		MOSKVA	1.2.0	0.0.0 (0.0.0)	1.0.0	0.0.0	0.0.0	0.0.0	0.0.0	2.2.0
		MUNCHEN	2.5.0	3.3.0 (2.0.0)	0.1.0	2.4.0	0.0.0	0.1.0	0.1.0	1.3.0
		MUNSTER	1.5.0	0.1.0 (0.0.0)	0.0.0	0.3.0	0.0.0	0.0.0	0.0.0	1.3.0
		NURNBERG	1.2.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	1.2.0
*		OSNABRUCK	0.0.0	0.0.0 (0.0.0)	2.2.0	0.0.0	0.0.0	0.0.0	1.0.0	1.2.0
		PAIGNTON	1.1.0	0.0.0 (0.0.0)	1.1.0	1.0.0	0.0.0	0.0.0	0.1.0	1.1.0
		PRAHA	2.0.0	0.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	1.0.0	1.0.0
		PRESCOT	0.0.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	0.0.0	1.1.0
*		ROMANECHÉ	0.0.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	1.0.0	0.1.0
		ROTTERDAM	1.3.0	2.0.0 (0.0.0)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	3.3.0
		SALZBURG-ZOO	2.5.0	2.2.1 (1.0.1)	0.0.0	1.4.0	0.0.0	0.0.0	1.0.0	1.3.0
*		SAARBRUCKEN	0.0.0	0.0.0 (0.0.0)	3.0.0	0.0.0	0.0.0	0.0.0	1.0.0	2.0.0
*		VALENCIA-PARC	0.0.0	0.0.0 (0.0.0)	2.3.0	0.0.0	0.0.0	0.0.0	0.0.0	2.3.0
		WHIPSNADÉ	0.0.0	0.0.0 (0.0.0)	0.2.0	0.0.0	0.0.0	0.0.0	0.0.0	0.2.0
		WOBURN	2.4.0	1.6.1 (0.3.1)	0.0.0	0.0.0	0.0.0	0.0.0	0.0.0	3.7.0
		WROCLAW	1.0.0	0.0.0 (0.0.0)	0.1.0	0.0.0	1.1.0	0.0.0	0.0.0	2.2.0
		WUPPERTAL	0.2.0	0.0.0 (0.0.0)	1.1.0	0.0.0	0.0.0	0.0.0	0.0.0	1.3.0
		Total (44)	54.73.0	52.69.11 (25.24.11)	23.33.0	23.33.0	1.1.0	3.3.0	11.8.0	68.108.0
		Non-EAAZ Institutions (4)	2.0.0	1.0.0 (0.0.0)	0.0.0	0.0.0	3.3.0	1.1.0	0.0.0	5.2.0



Red river hog EEP Annual Report 2007 - 2008



Discrepancy notes

Red river hog

Potamochoerus porcus pictus

KREINGLBACH

An extensive data reconciliation process revealed that status at 1 January 2007 was 4.4 instead of 1.3 as listed on 31 December 2006. Missing specimen were included in the studbook.

Summary

The EAZA population undergoes significant changes in that it grows by nearly 20% each year! No fewer than 13 new holding institutions joined the programme (of which 3 are non-EAZA members) during the past two years. In conjunction with a growing waiting list, this trend mirrors the enormous popularity (also as part of mixed exhibits) of this active and charismatic species. The population currently stands at 183 (73.110) animals at 48 institutions (including 7 (5.2) specimen held at 4 non-EAZA zoos).

This evolution doesn't come with a flaw, though. For long, breeding success was only recorded at Zoo Duisburg, accordingly specimens were sent to holders world-wide. The European population is extremely inbred, and while, fortunately, more and more holders do record breeding success (even though juvenile mortality is very high), the vicious circle of inbreeding is intensified.

Consequently and also due to the fact that the species might compete for conservation breeding space with more threatened pig species, it was decided in 2008 that the studbook be upgraded to a higher level of management, in order to exert more control over the breeding of the population. As a first reaction, new holders were asked to start with single-sex groups. It is also essential that new bloodlines be moved from North America to Europe to fight inbreeding (Zoo Duisburg is collecting international data on the species and cooperating with NA regional studbook keeper Jeff Holland from Los Angeles Zoo for years). Needless to say that this newly established EEP will have to use the whole range of management tools to consider everyone's needs.



Red river hog

EEP Annual Report 2007 - 2008



Notes

The studbook had officially been upgraded to EEP level in November 2008. New coordinator is Jochen Reiter from Zoo Duisburg following ESB initiator Achim Winkler, also Zoo Duisburg, who deserves all credit for his work.

Publications of interest:

Clauss M Comparative digestion studies in wild suids at Rotterdam Zoo. ZOO BIOLOGY Volume: 27 Issue: 4 Pages: 305-319 Published: JUL-AUG 2008

Abstract: Among the artiodactyla, the suids are a group whose digestive physiology has hardly been investigated. The apparent digestibilities (aD) of macronutrients were measured in captive specimens of warthog (*Phacochoerus africanus*), red river hog (*Potamochoerus porcus*), and Visayan warty pigs (*Sus cebifrons*), and compared with those reported for babirusa (*Babirusa babirusa*) from the same facility on a similar diet. The animals were fed mixed diets of pelleted feed, grains, fruits, and vegetables; dietary neutral detergent fiber (NDF) ranged from 17 to 26% dry matter. aD of organic matter and protein ranged from 72 to 89 and 70 to 82%, respectively. Although red river hogs and warty pigs achieved aD of NDF of 41-54%, this value was higher both in warthogs (63-66%) and babirusa (61-63%). aD of acid detergent fiber was comparatively low in red river hogs (4%), warty pigs (22%), and babirusa (13-25%) but high in warthog (59-62%). Comparison with additional literature data (including peccaries) indicates that in spite of differences in digestive anatomy, suids and peccaries are similar, and resemble other herbivores in fundamental characteristics, such as the negative influence of fiber on overall digestibility, or the positive influence of dietary protein on protein digestion. Although the existing data are equivocal as to a superior fiber digestion in peccaries as compared with other wild suids, the results suggest that warthogs are more efficient than other wild suids or peccaries in terms of fiber digestion.

Locke M. Structure of ivory. JOURNAL OF MORPHOLOGY Volume: 269 Issue: 4 Pages: 423-450 Published: APR 2008.

Abstract: Profiles with all orientations have been used to visualize the 3D structure of ivory from tusks of elephant, mammoth, walrus, hippopotamus, pig (bush, boar, and warthog), sperm whale, killer whale, and narwhal. Polished, forming, fractured, aged, and stained surfaces were prepared for microscopy using epi-illumination. Tusks have a minor peripheral component, the cementum, a soft derivative of the enamel layer, and a main core of dentine = ivory. The dentine is composed of a matrix of particles 5-20 μ m in diameter in a ground substance containing dentinal tubules about 5 μ m in diameter with a center to center spacing of 10-20 μ m. Dentinal tubules may be straight (most) or curly (pigs). The main findings relate to the way that dentinal tubules align in sheets to form micro-laminae in the length of the tusk. Microlaminae are sheets of laterally aligned dentinal tubules. They are axial but may be radial (most), angled to the forming face (pigs and hippopotamus canines), or radial but helical (narwhals). Within the microlaminae the dentinal tubules may be radial, angled to the axis (whales, walrus, and pigs), or may change their orientation from one microlamina to the next in helicoids (canines of hippopotamuses, incisors of proboscidea). In the nonbanded, featureless ivories from the hippopotamus incisors, the dentinal tubules form radial microlamina from which the arrangements in other ivories can be derived. In the canines of hippopotamuses and incisors of proboscidea, the dentinal tubule orientation changes incrementally from one microlamina to the next in a helicoid, a stack of dentinal tubules that change their orientation by 180 degrees anticlockwise. Dentinal tubules having different orientations are laid down concurrently, not layer by layer as in most examples of helicoidal architecture (e.g., insect cuticle). In proboscidean ivory, the microlaminae are radial, normal to the banding of growth layers marking the plane of deposition. They form radial segments with each 180 degrees turn in the orientation of their constituent dentinal tubules. Below the cementum they are almost complete 180 degrees helicoids, but nearer to the core they become narrower with the loss of radially oriented dentinal tubules. These truncated helicoidal patterns appear in longitudinal profile as VVVV feather patterns rather than boolean AND boolean AND boolean AND boolean AND, each V or boolean AND being the side view of a partial or complete helicoid. The Schreger pattern in proboscidean ivory consists of these helicoids divided tangentially into columns in the length of the tusk. Narwhals have the most abundant matrix particles with their radial/helical dentinal tubules having a twist opposite to that in the cementum.

African swine fever: how can global spread be prevented? Costard S. PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES. Volume: 364 Issue: 1530 Pages: 2683-2696 Published: SEP 27 2009

Abstract: African swine fever (ASF) is a devastating haemorrhagic fever of pigs with mortality rates approaching 100 per cent. It causes major economic losses, threatens food security and limits pig production in affected countries. ASF is caused by a large DNA virus, African swine fever virus (ASFV). There is no vaccine against ASFV and this limits the options for disease control. ASF has been confined mainly to sub-Saharan Africa, where it is maintained in a sylvatic cycle and/or among domestic pigs. Wildlife hosts include wild suids and arthropod vectors. The relatively small numbers of incursions to other continents have proven to be very difficult to eradicate. Thus, ASF remained endemic in the Iberian peninsula until the mid-1990s following its introductions in 1957 and 1960 and the disease has remained endemic in Sardinia since its introduction in 1982. ASF has continued to spread within Africa to previously uninfected countries, including recently the Indian Ocean islands of Madagascar and Mauritius. Given the continued occurrence of ASF in sub-Saharan Africa and increasing global movements of people and products, it is not surprising that further transcontinental transmission has occurred. The introduction of ASF to Georgia in the Caucasus in 2007 and dissemination to neighbouring countries emphasizes the global threat posed by ASF and further increases the risks to other countries. We review the mechanisms by which ASFV is maintained within wildlife and domestic pig populations and how it can be transmitted. We then consider the risks for global spread of ASFV and discuss possibilities of how disease can be prevented.

Hayward MW Prey preferences of the leopard (*Panthera pardus*). JOURNAL OF ZOOLOGY Volume: 270 Issue: 2 Pages: 298-313 Published: OCT 2006.

Abstract: Leopards *Panthera pardus* have a catholic diet and are generally thought to prey on medium-sized ungulates; however, knowledge on which species are actually preferred and avoided is lacking, along with an understanding of why such preferences arise. Twenty-nine published and

four unpublished studies of leopard diet that had relative prey abundance estimates associated with them were analysed from 13 countries in 41 different spatial locations or temporal periods throughout the distribution of the leopard. A Jacobs' index value was calculated for each prey species in each study and the mean of these was then tested against a mean of 0 using t or sign tests for preference or avoidance. Leopards preferentially prey upon species within a weight range of 10-40 kg. Regression plots suggest that the most preferred mass of leopard prey is 25 kg, whereas the mean body mass of significantly preferred prey is 23 kg. Leopards prefer prey within this body mass range, which occur in small herds, in dense habitat and afford the hunter minimal risk of injury during capture. Consequently, impala, bushbuck and common duiker are significantly preferred, with chital likely to also be preferred with a larger sample size from Asian sites. Species outside the preferred weight range are generally avoided, as are species that are restricted to open vegetation or that have sufficient anti-predator strategies. The ratio of mean leopard body mass with that of their preferred prey is less than 1 and may be a reflection of their solitary hunting strategy. This model will allow us to predict the diet of leopards in areas where dietary information is lacking, also providing information to assist wildlife managers and conservation bodies on predator carrying capacity and predator-prey interactions.

'The Ecology of Browsing and Grazing' eds. Iain J. Gordon and Herbert H. T. Prins

3. The Morphophysiological Adaptations of Browsing and Grazing Mammals Marcus Clauss, Thomas Kaiser and Jürgen Hummel

The behaviour, physiology and morphology of animals are the outcome of adaptations to particular ecological niches they occupy or once occupied. Studying the correlation between a given set of characteristics of an ecological niche and the morphological and physiological adaptations of organisms to these characteristics is one of the most basic approaches to comparative biology, and has fuelled scientific interest for generations (Gould 2002). However, current scientific standards cannot be met by mere descriptions of both the characteristics of the niche and the organism, and a (hypothetical) intuitive explanation for the adaptive relevance of the latter; the presence or absence of a characteristic must be demonstrated in sound statistical terms (Hagen 2003) ideally supported by experimental data (from in vivo, in vitro, or model assays) on its adaptive relevance.

Taxonomie und Phylogenie der Schweineartigen (C. Groves) and Das Verhalten der wilden Schweine (S. Plesner-Jensen) and Pinselohrschwein und Buschschwein (K. Leus, P. Vercammen, A. A. Macdonald) and Schweine als Zootiere (H. Frädtrich)
In *Wilde Schweine und Flusspferde. Alastair A. Macdonald und Udo Gansloßer (Hrsg.)* Filander Verlag 2008, 393 Seiten, zahlreiche Tabellen und Abbildungen, 44,90 €.