

Environmental and reproductive enrichment for African wild dogs (*Lycaon pictus*) in human care

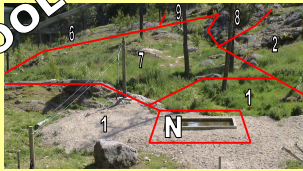


Introduction

A breeding group of African wild dogs was introduced to an **artificial POOL** which was a novel object to this particular group. A **rain/sun SHELTER** was also built.

A study of the **REPRODUCTION** was also performed where the behaviour before birth of cubs (*pre partum*) and the period after birth (*post partum*) was monitored and any indications of reproduction **functioning as enrichment** was analysed. Since **infanticide** occurred, an investigation of possible reasons was performed.

POOL



Goals

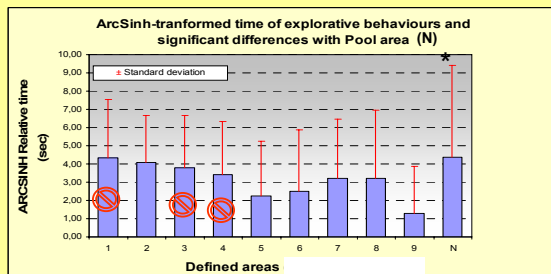
- ...stimulate bathing
- ...maybe increase other behavior repertoires as well!

Materials & Methods

Ten areas recorded (focal sampling) monitoring any behavioral differences. Pool area (N) was most interesting.

Results

- The pool **did not** trigger any longer periods of **bathing**.
- There was a significant increase in **explorative behaviour** in and around the pool area, both *with* and *without* water in the pool, which is shown in the diagram.



Conclusion

- **Increased exploration** may have been an effect of new scents in the sand being spread by water flooding over the edge of the pool, which triggered exploration even when water was not present.
- Environmental enrichment did not have the intended effect (more bathing) but worked as **olfactory stimulation** (Wells 2004).

SHELTER



Goals

- ...improve the welfare
- ...lure the pack closer to visitors

Material & Methods

The preferred place of resting was observed during the pool enrichment and compared to observations after a rain- sunshelter had been installed. Instantaneous sampling technique was used.

Results

- Inactivity during noon and afternoon drastically changed, according to the table below.

Defined area	Confidence interval of two proportions (95 % C.I.)
Somewhere else	$\pi_2 - \pi_1$; $0,418 \leq 0,11 - 0,722 \leq 0,814$
Rest of Area 4	$\pi_2 - \pi_1$; $0,045 \leq 0,056 - 0,278 \leq 0,400$
Within 5 metres	$\pi_1 - \pi_2$; $0,180 \leq 0 - 0,389 \leq 0,614$
Inside shelter	$\pi_1 - \pi_2$; $0,225 \leq 0 - 0,444 \leq 0,663$
Within 5 + inside	$\pi_1 - \pi_2$; $0,590 \leq 0 - 0,833 \leq 0,958$

Conclusion

- Decreased inactivity "somewhere else", more periods inactive close to or inside shelter (59-96% - C.I. 95%)(!)
- The installation fulfilled its original purpose!

REPRODUCTION

Goals

- ...investigate activities *pre partum* and *post partum*
- ...investigate any signs of reproductive enrichment (even though infanticide occurred)

Materials & Methods

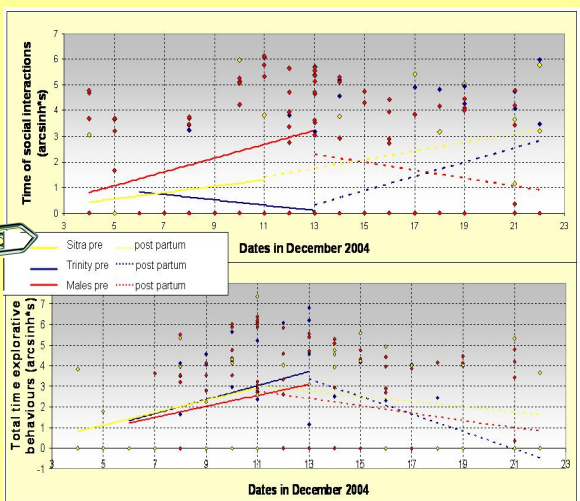
Three dens were built and behaviors were logged with focal sampling and cameras recording "24/7"

Results

- Time for **social interactions** increased indicating **increased intra-pack aggression** (Creel & Creel 2002); Omega female mobbed
- Increased explorative behaviors (*L. pictus* could smell reproductive status (Young 2003); Compare increasing trends of exploration in diagram (=enrichment).

Conclusion

- To ensure successful breeding the omega female should not be allowed to have cubs, thus decreasing intra-pack aggression and risk of infanticide!



References

- Wells, D.L. 2004. A review of environmental enrichment for kennelled dogs, *Canis familiaris*. Applied Animal Behaviour Science 85: 307-317
- Creel, S.R., Creel, N.M. 2002. The African wild dog: behavior, ecology, and conservation. Princeton, N.J.: Princeton University Press
- Young, R.J. 2003. Environmental enrichment for captive animals. Blackwell Science Ltd.