Does captivity result in changes between red jungle fowl populations?

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Aim

Captive environment may lead to unintentional changes in animal's genotype[1] . These changes could alter the threshold for performing behaviours essential for survival in the wild[2] . In order for reintroduction to be successful, the effect of captivity on e*x situ* animals should be minimized.

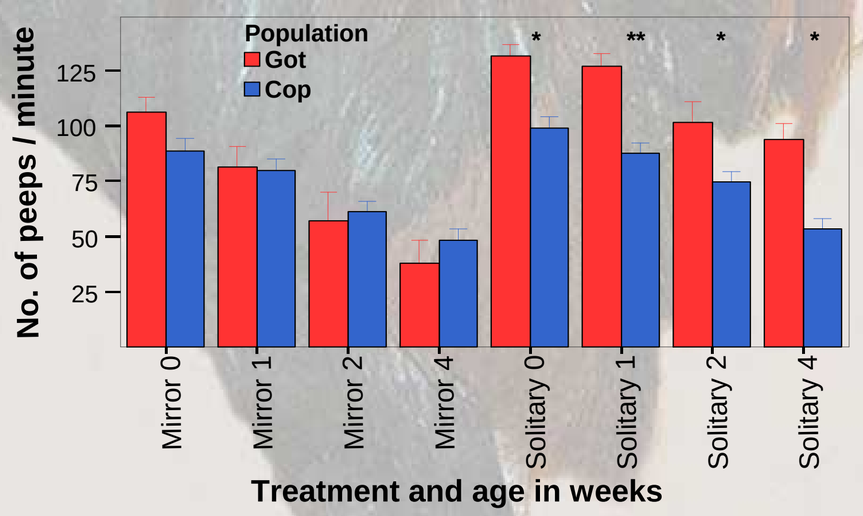
- **Does changes due to captivity exist in red jungle fowl *(Gallus gallus)*?**

Method

- two poulations originating from Copenhagen zoo, Denmark (COP) and Götala research center, Sweden (GOT).
- All hatched and reared under identical conditions
- A box with a sliding wall revealing or hiding a mirror (Figure 1).
- Two treatments:
  - mirror present
  - solitary
- All peeps were counted.

Figure 1. The box apparatus, modified after Warnick et al.[3]

Results



- Significant differences in the solitary treatment at all ages.
- No significant differences in the mirror treatment.
- Chickens peeped differed with the mirror present compared to when isolated.

Conclusions

Are the differences found due to…

- **strength of social attachment**

…or…

- **expressing social attachment?**

What are the causes?

- **changes in genotype that have occurred in captivity.**

…or…

- **chickens originating from different populations in general?**

References:
1. Price EO & King JA (1968) Domestication and adaptation. pp 34-45 in: Hafez ESE (eds) Adaptation of domestic animals. Lea and Febiger, Pennsylvania.
2. Kleiman DG (1989) Reintroducion of captive mammals for conservation. Guidelines for reintroducing endangered species into the wild. BioScience 39, 152-161.
3. Warnick, J.E., McCurdy, C.R., Sufka, K.J., 2005. Opoid receptor function in social attachment in young domestic fowl. Behavioural Brain Research. 160, 277-285.