

I found differences in social behaviour between the three populations.

It is not possible to say if there are differences in the strength of social attachment, however, there is a difference in how to express it. All populations peeped more when being isolated.

Social interactions did not differ between the populations, but *GOT* spent more time together on perches, while *COP* searched for food on the ground and *WL* ate from the feeder. This resulted in differences in social distance and position in pen.

Since the chickens have been hatched and reared under identical conditions, the differences ought to be genetically and not environmentally induced. It is however difficult to say if these differences are normal differences between populations or if they are due to captivity and domestication.

Minor differences like those found here may not matter in captivity, but in the wild, they could make all the difference when it comes to survival. This is an important aspect in *ex situ* breeding, and one goal is to minimize these changes as much as possible.



Chickens don't just look different...

...they act different

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Developmental differences in behaviour between red jungle fowl (*Gallus gallus*) and White leghorn (*Gallus gallus domesticus*)

- implications for conservation



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Many species are threatened by extinction. To prevent that from happening, several actions can be taken, such as *in situ* and *ex situ* conservation. In *in situ*, one protects a habitat and all the species in it. In *ex situ*, one takes animals into captivity and breeds them with the intention of releasing them back into the wild when their natural habitats are safe for them again.

When animals are taken from the wild, their environment will change dramatically. They face different challenges such as a different group composition and less space, but they are also sheltered from predators and harsh weather and are provided with food and water. These circumstances together with restrictions in mate choice, may lead to unintentional genetic changes in the animals. After some generations, these changes may affect the animals' ability to survive if being released back into the wild. To prevent such changes, one needs to know what is causing them and how they affect survival.



Two days old WL chickens

The aim of this study was to investigate if there were any differences in social behaviour between two populations of Red jungle fowl (RJF) and one population of White Leghorn layers (WL).



All chickens were hatched and reared under identical conditions in order to eliminate environmental effects. Three populations were used:

COP: Red jungle fowl originating from Copenhagen zoo where their ancestors have been roaming free over the zoo area since the 1950's. COP is the second generation hatched and reared at Götala research station. 7 males and 7 females were used.



GOT: Red jungle fowl originating from Götala research station and have been in captivity since 1993. Their ancestors have been exposed to human handling due to participation in research projects. 7 males and 5 females were used.



WL: A White Leghorn Layer strain, selected for commercial egg laying and high food conversion efficiency, and have been at Götala research station for generations. 4 males and 7 females were used.



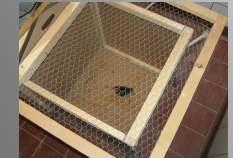
Two social behavioural tests were conducted: a social attachment test and a group observation test. I wanted to find out if there were any differences in both types and frequencies of social behaviours and interactions between the three chicken strains.

Social attachment test:

The chickens were put in a box, either isolated or with a mirror, showing the reflection of the chicken as a substitute of another chicken. The number of peeps was counted as a measurement of social attachment. The more they peeped the stronger the social attachment ought to be. This was done during the chickens first five weeks.



With mirror



Solitary

Group observation test

The populations were observed in groups and I looked at distance between individuals (social distance), social interactions and where in the pen they were. This was done when the chickens were 4 to 22 weeks old.



COP chickens in the group observation pen