

# The secret lives of fallow deer fawns (*Dama dama*)

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Fallow deer (*Dama dama*) are medium sized ungulates which originally come from western Eurasia but have been introduced nearly all over the world, mostly for hunting purposes. They are adaptable to a large number of habitats, but require forest for cover and meadows for grazing. Does normally give birth to a single fawn in the late spring or early summer, and the fawn lactates for up to seven months. This results in a close relationship between the doe and her young. Fallow deer are a hider species, which means that for the first weeks of life, they lie hidden in high grass or forests while their mothers forage. For the first few days after birth, they remain in their hidden positions when approached by a threat, but after they have developed the strength, they begin to struggle and run. These anti-predation behaviors allow for them to remain safe while their mothers acquire the nourishment necessary to sustain them both.

Fallow deer have been living within the Koberg estate in south western Sweden since the 16<sup>th</sup> century, which is the site chosen for this project. It was chosen due to the diversity of habitats in the area, as it offers both forests and pastures, as well as a large water source (Vänern). Fawns were caught in the summers of 2008, 2009, and 2010. They were weighed, marked, given VHF or GPS collars, and notes were made on all physical and behavioral aspects of their conditions. For those years, and the following two, observations were made regarding the dispersal of the fawns. We wanted to follow the fawns as they grew- examining mortality, growth, dispersal, and anti-predation behaviors. We also wanted to see how these behaviors developed as they grew, to determine if age could be estimated in the field based solely on them. We used statistics and a geographical information system (ArcGIS) to assess the data obtained about the fawns.

What we found is that the fawns in Koberg preferred coniferous forests of all sizes the most, followed by arable lands. We compared this with some unrelated females also within the estate and found that the habitats they chose were almost identical. This supports the assumptions that fawns and their mother stay in the same types of areas in the months following birth. We also found a low mortality in Koberg deer, which was about a third of what is normally seen in wild deer. During the first few weeks, we saw what seemed to be almost equal growth rates between males and females, although males were larger and remained larger throughout. After about a week, the growth rates increased, showing that fawns grew faster as they got older.

There was not a direct relationship between dispersal and age or sex, but there were distance peaks at the twelve and twenty-four month marks. The fact that the furthest distances were noted at these times could mean that they were seen as they were leaving the area and only non-dispersing animals were seen after that. It could also be that they venture out and then return to their home ranges periodically before they permanently disperse. The behaviors that we were looking at to compare with age changed in reliable manners as the ages of the fawns increased. As age in days passed, we could see corresponding changes in behavior. Although it may not estimate age correctly every time, it could provide biologists in the field with tools for general age assessment.

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