

## **Abstract**

An individual position in social hierarchy is the key mechanism, how an individual could gain a priority access to more quality food resources, find an attractive sexual partner to reproduce and find territory with low predation risk and maintain its fitness in total. Personality is supposed to be an important factor how an individuals keep their positions in social groups. The consistent individual variability in aggressive behaviour is closely related to the expression of melanin-based colouration and testosterone levels in blood. More explorative, aggressive, bolder and darker-coloured individuals are supposed to achieve higher dominance rank in social structures. But this prediction was barely tested. The main aims of this diploma thesis were: to find consistent individual variability in social and non-social context to confirm personality traits and to define connection between an individual variability in agonistic and explorative behaviour and melanin-based colouration in relation to social rank in experimental group of domestic pigeons (*Columba livia f. domestica*) under human care. Unfortunately, personality could not be defined and even more, there was no significant correlation between dominant position in social hierarchy and individual behavioural variability in social and non-social context despite of significantly proven negative impact of mainly grey colouration on dominance rank.

**Key words:** social hierarchy, dominance rank, personality, melanin-based colouration, domestic pigeons