

SUMMARY

Many factors affect the breeding success of birds. Some of them, such as weather conditions and predation, are independent of the breeding pair. Others, such as investments in egg quantity and quality, timing of incubation initiation and cooperation between partners, allow parents to shape breeding success to some extent. The aim of this study was to investigate the relationship between parental investments and strategies and the breeding success of the pair in the starling *Sturnus vulgaris*.

I conducted my research in the 2017 and 2018 breeding seasons, during which I collected data on the number and weight of eggs laid in the nests of individual pairs, the timing of egg incubation, the hatchability of eggs in individual nests, the weight of chicks in subsequent days of life, the breeding success of pairs, the parental investment in feeding the chicks and the division of parental duties between partners. The study showed that the initial decisions and investments of a female at the egg-laying stage have a significant influence on the breeding success of starlings. In particular, higher egg mass had a positive impact on both hatchability and the future fate of chicks, and ultimately on the breeding success of the pair. The start of incubation before the completion of laying, resulting in a later hierarchy of age and size of chicks in asynchronous broods seems to be equally important. With this strategy, female starlings vary the survival chances of individual chicks in the brood, which probably helps to adjust the number of chicks in the nest to the specific conditions during a particular breeding season. The individual variation in the number and mass of eggs laid, as well as the timing of the start of incubation, indicates that females have a considerable influence on the breeding outcomes. The investments of males in nestling feeding also has an important role. The results show that the sexual conflict, which seems to be beneficial for the less investing partner, is at the same time a limiting factor for the breeding success of the pair, as parents with unequal division of responsibilities produced fewer offspring. In most cases, unequal division of parental duties was associated with less male investment in feeding nestlings. A more balanced division of duties can be negotiated by alternation of male and female feeding trips, which was observed in more than half of the visits with food in the studied population.

Keywords: *Sturnus vulgaris*, parental investment, bird reproductive strategies, feeding alternation, breeding success.

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