Growth of nestling Ural owls

Growth of nestling Ural owls *Strix uralensis* was studied in Päijät-Häme in central Finland. The aim was to describe the growth pattern of the species and further analyse the importance of various factors in determining growth of individual nestlings. For studies on growth the ecology of Ural owl includes many interesting features such as pronounced sexual dimorphism, highly variable brood size and degree of hatching asynchrony as well as the dependency of owls on cyclically fluctuating vole populations.

In 1983 weights and wing lengths of 31 nestlings were measured daily and in 1986 same measurements were made on 118 nestlings at five day intervals. The mean growth data was fitted to the logistic growth equation in order to obtain species specific growth parameter values. The data on individuals was transformed in to growth indices based on the mean data.

Ural owls had significantly higher growth rates than expected from their size and growth rates of related species. High growth is connected with the low asymptotic weight in relation to adult weight and the premature fledging of chicks. It is suggested that elevated growth rate is a result from a selective force promoting early fledging rather than acting directly on growth rate itself.

Sexes differed significantly in all parameters of the growth equation. Females had 20% higher asymptotic weights than males and are therefore more costly to rear than males. Male nestlings reached asymptotic weights earlier and this enables them to allocate more resources into locomotive capabilities. No difference in wing growth between sexes was recorded although dimorphism is present in adults.

Position within broods had a clear effect on growth. Age and size differences produced by asynchronous hatching resulted in a dominance hierarchy in which the growth rate of later hatched nestlings was reduced. Male nestlings seemed to be more sensitive and suffered more from this competition between siblings. The poor growth of last hatched nestlings also reflects their low subsequent survival and recruitment rates. It is suggested that in the largest broods the last hatched nestlings act mainly as reserves in case previous eggs fail to hatch.

A seasonal effect on growth was also recorded. Early and late broods had lower growth rates than middle broods. In early broods which are largest poor mean growth is caused by runts found in low positions. In late broods which are smaller poor growth is connected with changes in prey availability or parent quality.

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Säilytyspaikka — Förvaringsställe

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