

Low or no occurrence of extra-pair paternity in the Black Guillemot *Cephus grylle*

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Abstract

We investigated extra-pair paternity (EPP) among 46 young in 32 broods of 19 social pairs of Black Guillemot *Cephus grylle*, using a combination of three polymorphic microsatellite markers. The analysis was based on blood samples collected over eight years from a population of individually colour-ringed birds in North Norway. All chicks shared an allele on all three loci with both social parents. Hence, there were no cases of extrapair parentage. Given our sample sizes, the upper 95% confidence limit of EPP was estimated to 6.2% of the young and 8.9% of the broods. Among seven extra chicks, for which we lacked a DNA sample from the social mother, there was one case of genotype mismatch with the social father, but this could also be because of egg dumping. Low occurrence of EPP has now been documented in five of the six species of Atlantic auks.

Keywords Genetic paternity, Microsatellites, Alcidae, Auks