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Room: Seminar Room

Genetic assignment of dispersers and patterns of dispersal in a house sparrow metapopulation

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Since dispersers only contribute to genetic variation if they reproduce, it is important to distinguish the ecological and genetic dynamics of dispersal. In the present study, we will use 200K SNP genotype data on more than 3000 individuals from a long-term study of an insular house sparrow metapopulation at the coast of Northern Norway, to quantify genetic differentiation among the insular sub-populations across more than 10 years, and assign individuals genetically to their natal island. This is going to provide information which will constitute a valuable supplement to existing ecological data on dispersal in the study metapopulation.

According to preliminary results from ongoing analyses, we expect the number of correctly identified dispersers to increase, and their origin to be more reliable. We expect that this in turn will result in increased statistical power in subsequent analyses where the high-quality dispersal data will be used to test key hypotheses regarding causes for dispersal in the house sparrow metapopulation, such as whether dispersal probability has a genetic basis, and/or whether it is related to avoidance of competition with kin and/or inbreeding. Furthermore, to get a better understanding of the ecological causes and consequences of dispersal, dispersal patterns in the house sparrow metapopulation will be examined to determine for example whether there is any source-sink dynamics. We believe our analyses will give a better understanding of the importance of dispersal for eco-evolutionary dynamics in metapopulations in general.