

# Study of bird migration tricky due to hybridization

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The hybrid of the lesser spotted eagle and the greater spotted eagle Credit: Urmas Sellis

Hybridization among bird species is a widespread phenomenon, which is best illustrated in Estonia by the lesser spotted eagle and the greater

spotted eagle. However, due to the fact that the migration strategies of both bird species are completely different, studying their hybrid offspring helps ornithologists discover a lot about their migration secrets.

The lesser spotted eagle is an early leaving far traveler. The greater spotted eagle is a late leaving short- and middle-distance traveler. According to Ülo Väli, senior researcher at the chair of biological diversity and nature tourism of the Estonian University of Life Sciences, [hybridization](#) causes confusion among ornithologists, but it is worrying, because the rare greater spotted eagle may be endangered. At the same time, studying hybrids can reveal answers to ecological questions. "With their hybridization, birds offer scientists an excellent inter-breeding experiment from nature, which helps explain factors affecting the [migration](#) of birds."

Thus, for instance, it has been believed for a long time that the timing, direction and length of migration of passerines with a shorter lifespan is mostly determined by [genetic factors](#), and for bigger birds with a longer life-span, it is more important to learn from their parents and others of the same species. It has previously only been possible to conduct experiments with small passerines in order to check these assumptions. The research of migration of big birds with a longer lifespan has been hampered by inadequate technical capacities.

In an international study managed by Väli, the results of which were recently published in an article in the journal *Proceedings of the Royal Society B*, researchers examined the [migration pattern](#) of spotted eagle hybrids or bigger birds with a longer lifespan. To follow the migration, hybrid birds were fitted with GPS transmitters tracking their exact location in Estonia, Lithuania and Poland. The data was gathered for more than a decade, and to obtain a better overview, the researchers compiled a thorough migration database.



The hybrid of the lesser spotted eagle and the greater spotted eagle. Credit: Ülo Väli

The researchers report that hybrids most frequently depart as early as lesser spotted eagles; however, they don't fly as far, which could have been predicted based on the important role of social factors. Instead, the hybrids rather chose to overwinter at the latitudes more typical of greater spotted eagles.

In addition, the variety of their migration routes and the size of winter territories was more characteristic of the greater spotted [eagle](#). These results show that although social and territorial factors can impact the migration strategies of [birds](#) with a longer lifespan, the role of genetic

factors in these species is bigger than presumed.

**More information:** Ülo Väli et al, Genetic determination of migration strategies in large soaring birds: evidence from hybrid eagles, *Proceedings of the Royal Society B: Biological Sciences* (2018). [DOI: 10.1098/rspb.2018.0855](https://doi.org/10.1098/rspb.2018.0855)

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