

# Pale barn owls in UK and Ireland hint at ancient land bridge

The barn owls of northern Europe are typically dark-feathered, making the pale-feathered barn owls of the UK and Ireland an anomaly - now a study suggests they arrived via an ancient land bridge connecting the area to Iberia

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By **Jake Buehler**





A barn owl (*Tyto alba*) with pale feathers

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Barn owls are one of the most widely distributed birds, being found on six continents. In Europe, they follow a general pattern: southern areas host pale owls and darker birds dominate in the north. But barn owls in the UK and Ireland are consistently a stark white, and a new analysis explains why.

[Ana Paula Machado](#) studied the owls (*Tyto alba*) while at the University of Lausanne in Switzerland. She and her colleagues analysed DNA from 147 barn owls across six European populations. They targeted a gene called *MC1R*, which is known to influence feather pigmentation in barn owls, along with 22 other genes the owls carry that have been linked to feather colour.

In particular, they were looking for evidence that owls from Ireland and the UK had dark-feathered ancestors and then underwent strong selection for pale feathers, as an adaptation to local conditions. They didn't find any.

“We didn't see that one coming,” says Machado, so they began looking for an alternative explanation. She and her colleagues used data on the habitats that barn owls occupy today to predict how they would have been distributed across Europe under ancient climatic conditions.

This revealed a now-submerged land corridor of suitable owl habitat along the Bay of Biscay, bridging Iberia and the Ireland-UK region some 20,000 years ago.

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This suggests owls in the UK and Ireland had pale-feathered ancestors from southern Europe. The genetic data corroborates this, showing that owls from the region have close relations with those from Portugal.

The Iberian route is a surprise. Most animals that recolonised the UK and Ireland after the Pleistocene ice sheets retreated around 18,000 years ago are thought to have entered via [Doggerland](#), a boggy land bridge that existed at the time and connected Belgium with southern England.

But Machado suspects that, as more genetic data is studied, evidence will emerge that other animals reached the region along the Iberian route.

[Nicolas Dussex](#) at the Swedish Museum of Natural History in Stockholm says that the study is “compelling”. He says it would be interesting to investigate whether the barn owls of the UK and Ireland originated as a small population, and if so whether this affected their adaptability.

Machado says future work should seek to more fully understand how genetics determine the owls’ colour. There are also behavioural differences to study: the barn owls of the UK and Ireland regularly hunt in the day, unlike those in mainland Europe.

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