

A New Bird of Prey Spreading to Azerbaijan Could Reduce the Population of Other Species

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The Black-winged Kite (lat. *Elanus caeruleus*) is the latest bird of prey species added to Azerbaijan's fauna, having expanded its range into the territory. Species typically expand their ranges due to changes in environmental factors. Changes in one species' distribution range can affect other species and impact ecosystems in both new and abandoned territories. With the addition of the Black-winged Kite, there are now 46 species of predatory bird in Azerbaijan across three orders: Falconiformes, Accipitriformes, and Strigiformes (Billerman et al. 2022).

The Black-winged Kite first appeared in the Caucasus Ecoregion in Iran in 1998 and began nesting in southern Iran and southeastern Turkey in the 2000s and 2013, respectively (Kemp et al. 2020). In Azerbaijan, observers first spotted a juvenile individual on 6 February 2020 along the Araz River in Nakhchivan AR (Resulzade 2020). In subsequent years, more individuals have been observed, and the species has now started breeding in Azerbaijan (Farajli 2024). Similarly, in recent decades, this species has spread from Africa to the Iberian Peninsula and other regions of the Middle East (Ławicki & Perlman 2017). Researchers attribute its successful range expansion in Europe primarily to the increase in agricultural lands, which indirectly leads to higher rodent populations (Balbontin et al. 2008).

Globally, the Black-winged Kite's range includes Africa (areas south of the Sahara Desert), Southeast Asia, Southwestern Europe, and the Middle East. This distribution covers an area of 132 million km², with an estimated 1,100-2,600 breeding pairs in Europe alone (BirdLife International 2019). One reason for this species' successful spread is its ability to breed almost year-round, depending on rodent populations. For example, in Israel, the population grew from just 5 pairs in 2011-2012 to 150 pairs in 2016 (Ławicki & Perlman 2017). This suggests the possibility of rapid population growth in Azerbaijan in the near future. According to Azerbaijan's Law on the Ratification of the United Nations Convention on Biological Diversity, protecting viable populations in their natural habitat (in-situ) represents a fundamental requirement for biodiversity conservation. Proper and sustainable biodiversity conservation requires studying changes in species' ranges and populations.

The Black-winged Kite primarily feeds on various rodents, and it shares the same ecological niche as Eurasian and Lesser Kestrels in Azerbaijan. An ecological niche encompasses both the physical space a species occupies and its functional role (AEMMS 2025). Research in Iran has shown that house mice make up 59,4% of the Black-winged Kite's preferred rodent diet (Vosoghi et al. 2012). Recent studies in Taiwan have documented a decrease in Eurasian Kestrel (lat. *Falco tinnunculus*) populations due to Black-winged Kites' aggressive behavior and competition over food. In the same study, researchers conducted experiments using decoys to measure aggression between these species. They found that Black-winged Kites attacked 60% of Kestrel decoys compared to 48% of their own species' decoys (Chen et al. 2022). This warrants consideration as a factor that could potentially impact the existing ecosystem balance.

The Lesser Kestrel, migratory bird in the South Caucasus saw its population decline from 500 individuals in 1999-2000 to 270 birds ten years later, leading to its inclusion in the

second edition of Azerbaijan's Red Book (MENR 2013). However, the latest edition has moved the Lesser Kestrel from the protected species list to the pink list at the end, reflecting its population increase (MENR 2023). The expected future growth in numbers of Black-winged Kites in Azerbaijan could negatively impact both Kestrel populations, similar to Taiwan's experience, potentially necessitating renewed protection measures.

The use of chemicals against pests and diseases in agricultural areas negatively affects the prey base of bird of prey that feed on rodents, including Black-winged Kites, Eurasian and Lesser Kestrels. Similarly, the cutting of solitary trees in open areas and illegal hunting contribute to declining raptor populations. Considering these factors, reducing pesticide use and combating illegal hunting remain crucial for protecting bird of prey species in Azerbaijan.

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