

Birds sing louder amidst the noise and structures of the urban jungle

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Sparrows, blackbirds and the great tit are all birds known to sing at a higher pitch (frequency) in urban environments. It was previously believed that these birds sang at higher frequencies in order to escape the lower frequencies noises of the urban environment. Now, researchers at the University of Copenhagen and the University of Aberystwyth have discovered that besides noise, the physical structure of cities also plays a role in altering the birds' songs.

Urban birds sing differently and at a higher frequency than woodland birds in an effort to penetrate the wall of constant noise produced by traffic, machines and human activity. However, architecture also has a profound affect on their songs. The study findings have recently been published in the esteemed scientific journal *PLoS One*.

A new explanation

"Urban architecture is a crucial determinant of how urban birds sing". Noise amidst the urban landscape is typically composed of lower frequencies. Thus, one might jump to the conclusion that it would be smart for birds to distinguish their song by singing louder in order to drown out the competing noise. However, the recent study demonstrates that the noise explanation is incomplete, according to Professor Torben Dabelsteen of the Section for [Ecology and Evolution](#) at the University of Copenhagen's Department of Biology, one of the authors of the study.

The city's role in the song

Some researchers have never really bought into the idea that urban noise alone caused birds in the city to sing at higher frequencies. Either directly, because birds tried to sing at a higher tone and away from noise or indirectly, by the birds singing louder to drown out anthropogenic noise.

"Now, with the help of controlled sound recordings, we have shown that the higher frequencies in urban birds' songs are also transmitted across cities when there isn't any noise from traffic. This shows that the [physical structure](#) of cities must play a considerable role in the heightened frequencies," explains Torben Dabelsteen.

Structures and variations in the cityscape - houses, streets, open spaces and alleys - all serve to reflect and distort noise in differing ways, things that birds must take into account. Birds in the urban environment can easily spot one another, but must do what they can to reduce echoes from buildings and narrow streets in order to penetrate and communicate effectively.

High-pitched urban birds

Birds living beyond the [urban landscape](#) need not tweet away with full force. While the woodland's trees and abundant foliage also distort sound through reflection, they also serve to obstruct clear lines of sight. Therefore, rural birds may utilize these distortions to help judge distances and locate one another.

"City-dwellers can look forward to the lively song of birds in the coming spring, and even though a side effect of the urban birds' more powerful song is that they sing at a higher pitch, this is something that we are not

typically able to hear," explains Dabelsteen.

Provided by University of Copenhagen

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