

Study suggests dark-colored wing feathers may help birds fly more efficiently

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A team of researchers at the University of Ghent has found evidence that suggests birds with white wing feathers close to the body and black wing tips get increased lift from their wing colors. In their paper

published in *Journal of the Royal Society Interface*, the group describes their study of wing color in several species of birds and what they found.

Humans have been studying birds and other flying creatures likely since the time they could think. In a new study, researchers wondered if the color of a bird had any impact on flying efficiency. To find out, they collected several stuffed samples and brought them to their lab for study.

The experiments consisted of putting stuffed wings in a [wind tunnel](#), heating them with infrared lights and then testing them to see what happened. They were most interested in soaring birds such as back-blackened gulls, gannets and osprey. They tested samples of each under various wind conditions to see if [wing](#) color had an impact on flying efficiency. Notably, soaring birds can at times gain altitude without even flapping their wings due to undercurrents.

The researchers report that dark feathers grew hotter than lighter colored feathers and they also gained heat faster than lighter colors. But it was birds that had white or light-colored [wing feathers](#) near their bodies and dark or black feathers on the rest of their wings that saw a real benefit. The researchers found temperature differences as great as nine degrees between black and white feathers on the same wings—enough to create a convection current in the air just over the wing, moving from the bird's body outward along the wing. They noted that this boosted airflow, which, they assumed, made flying more efficient. The researchers plan to continue studying this effect in birds, hoping to determine just how much of an increase in lift the [birds](#) actually get from their color differences—and if there are differences in drag.

More information: Svana Rogalla et al. Hot wings: thermal impacts of wing coloration on surface temperature during bird flight, *Journal of The Royal Society Interface* (2019). [DOI: 10.1098/rsif.2019.0032](https://doi.org/10.1098/rsif.2019.0032)

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