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The flights of owls

Abstract:

Flying silently being a trait of an owl could be because of its wings compared to other birds. 3 birds(pigeon, peregrine, barn owl) are put through two tests measuring the decibel waveform with an array of super sensitive microphones, and using feathers to see the turbulence from the birds flight movement. The pigeon and peregrine wing beats were picked up on the microphones but the barn owl was not, no sound was found. For the feathers the pigeon and peregrine created turbulence on the feathers while the barn owl created only a whisper below. The owl's large wings and small body make it easier to glide and use less motion compared to the two other birds. Owl use of body and unique wings allows for silent flying(Lesley Evans Ogden). With this I believe owl's silent flying is due to their wings movement compared to other birds.

Introduction:

Why do owls fly silently compared to other birds? With the use of super sensitive microphones and feathers it will test the wing beats of three birds, one being an owl.Having 3 different species of bird will allow distributed results,giving on the difference between owls and other bird species. People will wonder why experiment with this topic but the ability to move without sound is a trait not found in many and an answer was seeked. I believe the movements of their wings have an impact on owls. As owls have unique feathers they break the turbulent air from its com-like edge.

Materials:

With the use of an array of super sensitive microphones which will measure decibel waveform and feathers to see the turbulence from the birds flight movement. You will need a barn owl, pigeon and peregrine.

Methods:

There are 2 tests the first being the microphones and the second is the feathers. For the first test they examine three birds, a barn owl, pigeon and peregrine to fly above the microphones. This will allow them to see the decibel waveform and compare the results. The next test is putting feathers on the ground and making the birds fly over them. This will allow people to see the turbulence(air movements) from the birds flight. These tests will examine the noise made with each wing beat which is the flapping of wings and the force of flapping their wings.

Results:

With the super sensitive microphones there was noise picked up for 2 of the 3 birds with the barn owl being the one not making a noise when in flight. Moving on to the next test the pigeon and peregrine flapping of their wings creates a strong air current compared to the barn owl who only creates a whisper in the feathers below(BBC Earth).

Discussion:

With the both test the pigeon and peregrine created similar results being sound and strong turbulence it can said that their fast flapping of wings helds great impact on the results. The barn

owl not only made no noise but barely made turbulence on the feathers. It can be said that the movement of its wing is much slower compared to the pigeon and peregrine(BBC Earth). While these results were promising there were more contents that could have been dwell into other than exterior effects and more of interior movement. These results help my hypothesis as the owl has different results compared to the two birds. The owl's ability to produce sound is what started this experiment but why is the question that was to be answered. It did have focus on the movement of the birds wing on the slow pattern of the wing beat but could elaborate more on the muscles used. The

Conclusion:

Birds movement has a huge impact in their survival which is why there is a difference in noise production when flying. The pigeon and peregrine build up speed for different purposes but overall create sound while the barn owl flies slowly and glides through the air. The different body structure determines how much force is generated for them to stay airborne. Figuring out the adaptation built on animals will help further help studies of evolution.

Bibliography

"Experiment! How Does An Owl Fly So Silently?" *Youtube*, BCC Earth, https://www.youtube.com/watch?v=d_FEaFgJyfA.

Ogden, Lesley Evans. *The Silent Flight of Owls, Explained*. 2017. *Audubon*, www.audubon.org/news/the-silent-flight-owls-explained. Accessed 28 July 2017.