Birds with bigger brains found to be less likely to get shot

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(Phys.org)—A pair of researchers has found that birds with bigger brains are less likely to get shot by hunters than birds with smaller brains. In their paper published in the journal *Biology Letters*, Anders Pape

Møller, with Université Paris-Sud in France and Johannes Erritzøe with House of Bird Research, in Denmark describe a study they carried out on bird brain comparisons in hunted prey.

As the researchers note, hundreds of millions of animals are killed each year by hunters—some purely for sport, others for their meat. In this new effort, they sought to learn more about the possible evolutionary impact hunting might have on various species of birds.

To gather information, the team pulled statistics from a database used by taxidermists in Denmark to record animals they work with—Danish law requires all such animals be logged. The dataset covered the years 1960 to 2015 and included 3781 birds among 197 species.

The researchers found that those birds with smaller brains (relative to the size of their bodies) were more likely to be shot and catalogued—as were males and larger birds in general. The team looked at a variety of factors such as organ size, body mass, gender, species, color, etc., and found one factor that stood out very clearly from the rest—birds with larger brains were 30 times less likely to be shot and killed. This, the team suggests, indicates that hunting is very likely having an evolutionary impact on animals that are hunted by humans. They do not believe that hunters are specifically targeting smaller species, it's more likely that those with larger brains have learned to be wary of humans.

More research will have to be done, of course, before such findings can be accepted by the general science community; other factors must be tested—for example, such as whether birds with smaller brains happen to taste better and thus are targeted more often than those with larger brains, or whether the numbers of birds shot that show up at a taxidermy has any correlation with brain size—those shot for show, for example, might be more likely to be stuffed and mounted.

More information: Anders Pape Møller et al. Brain size and the risk of getting shot, *Biology Letters* (2016). DOI: 10.1098/rsbl.2016.0647

Abstract

Hunting kills hundreds of millions of animals annually, potentially constituting an important selection pressure on hunted species. We hypothesized that hunted individuals differing from survivors by having better ability to distinguish between dangerous humans and other human beings would be at a selective advantage. We tested whether shot individual birds had smaller brains than survivors, under the assumption that individuals with larger brains had superior escape ability. We used a large database on birds from Denmark to test whether getting shot was predicted by brain mass, while controlling statistically for the potentially confounding effects of age, sex, body mass and body condition. Analyses based on all species, or only species that were hunted, while controlling for differences in sampling effort in random effects models, showed consistently that shot individuals had smaller brains than survivors.