

Humans behind extinction of hundreds of bird species over the last 50,000 years

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A new study from Tel Aviv University and the Weizmann Institute revealed that over the last 20,000-50,000 years, birds have undergone a major extinction event, inflicted chiefly by humans, which caused the

disappearance of about 10 to 20 percent of all avian species. The vast majority of the extinct species shared several features: they were large, they lived on islands, and many of them were flightless.

The main cause for extinction of species by humans today has evolved from being hunting to the destruction of the animals' [natural habitats](#), but the researchers hope their findings will serve as warning signals regarding bird species currently threatened with extinction.

The study was led by Prof. Shai Meiri of the School of Zoology at The George S. Wise Faculty of Life Sciences and the Steinhardt Museum of Natural History at Tel Aviv University, and Amir Fromm of the Weizmann Institute of Science. The paper was published in the *Journal of Biogeography*.

Human-inflicted extinction

Prof. Meiri: "We conducted a comprehensive review of scientific literature, and for the first time collected quantitative data on the numbers and traits of [extinct species](#) of birds worldwide. Those that became extinct in the last 300 years or so are relatively well known, while earlier species are known to science from remains found in archaeological and paleontological sites worldwide. Altogether we were able to list 469 [avian species](#) that became extinct over the last 50,000 years, but we believe that the real number is much higher."

The researchers believe that the vast extinction was caused primarily by humans who hunted the birds for food, or by animals brought to [islands](#) by humans—that fed on the birds and/or their eggs. This assumption is based on the fact that the greater part of bird remains was found on [human](#) sites, apparently belonging to birds consumed by the inhabitants, and in most cases the extinctions occurred shortly after the arrival of humans.

Coveted targets for hunters

Most extinct species shared three major features:

1. About 90 percent of them lived on islands—When humans arrived on the island, the birds were hunted by them, or fell victim to other animals introduced by humans, such as pigs, rats, monkeys, and cats.
2. Most extinct bird species were large, some very large—The body mass of the extinct species was found to be up to 10 times as large as that of surviving species. The larger birds provided humans with a great quantity of food, thus they were a preferred target for hunters. Previous studies have found a similar phenomenon among mammals and reptiles, especially lizards and turtles that lived on islands: the larger ones were hunted by humans and became extinct.
3. A large portion of the extinct bird species were flightless, and often unable to escape their pursuers—The study found that the number of flightless bird species that became extinct is double the number of flightless species still existing today; all in all, 68 percent of the flightless bird species known to science became extinct. One of the better-known examples is the moa bird in New Zealand: 11 species of moa became extinct within 300 hundred years, due to hunting by humans.

Prof. Meiri said, "Our study indicates that before the major extinction event of the past millennia, many more large, even giant, as well as flightless avian lived on our globe, and the diversity of [birds](#) living on islands was much greater than today. We hope that our findings can serve as warning signals regarding [bird species](#) currently threatened with extinction, and it is therefore important to check whether they have similar features. It must be noted, however, that conditions have changed considerably, and today the main cause for [extinction](#) of [species](#) by

humans is not hunting but rather the destruction of natural habitats."

More information: Amir Fromm et al, Big, flightless, insular and dead: Characterising the extinct birds of the Quaternary, *Journal of Biogeography* (2021). [DOI: 10.1111/jbi.14206](https://doi.org/10.1111/jbi.14206)

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