

Eagle-eyed birds of prey help scrounging vultures find their dinner

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A vulture in Kenya. Credit: Darcy Ogada 2014

Zoologists from the School of Natural Sciences at Trinity College Dublin have discovered how endangered vultures find their food, which will have important applications for their conservation. It turns out the iconic birds, which look like they belong in a former world dominated by dinosaurs, use social cues from birds of prey to locate food before swooping down in large groups to steal the freshest of 'ready meals'.

The zoologists used a combination of economic game-theory models (that describe how cooperative and cheating behaviours of individuals

with competing interests are expected to evolve) and data collected from fieldwork in Kenya to study the feeding behaviour of two species of [vultures](#) that are native to the region. These social birds are the only vertebrates that adopt the unusual strategy of feeding exclusively on carrion (they do not attack live prey).

Because the location and availability of carcasses is very unpredictable, vultures rely on each other to find food. This new research has now revealed that they also use cues from scavenging Tawny and Steppe Eagles, whose keen eyesight and sharp beaks means they are better equipped to spot carrion from the skies and eat it when they land. This finding adds an extra consideration to the mix with regard to how we must design interventions to conserve vultures.

"We filmed interactions between eagles and vultures feeding at animal carcasses and our videos confirmed that eagles use their keen eyesight to find carcasses first, while the vultures simply 'scrounge' this information by following them to the carcasses," said Adam Kane, PhD Researcher, who is co-author of the paper that has just been published in the prestigious international journal *Proceedings of the Royal Society B*.

The vultures do not merely follow the eagles to the dinner table, however; they make use of their superior ['food preparation'](#) skills as well. Eagles are able to tear open carcass hides with their strong beaks, but the vultures can't, so they typically wait for the eagles to do the dirty work before bullying them off and tucking in to their dinner.

"That's not to say the eagles are the losers here. By arriving earlier, they get their finder's bonus and can continue on with some hunting once displaced; a strategy vultures can't rely on," added Mr Kane.

Crucially, these new insights into the social interactions of vultures and [eagles](#) highlight the vital importance of integrated management strategies

for conserving endangered vulture species.

Dr Andrew Jackson, Assistant Professor in Zoology and Principal Investigator in the Trinity Centre for Biodiversity Research in the School of Natural Sciences at Trinity College Dublin supervised the research. He added: "Vultures were once the most abundant birds of prey in the world, but their numbers have been hammered in recent decades by habitat loss, inadvertent poisoning, and hunting. Our study shows, as is often the case in the tangled web of ecology, that it is important to consider other species when trying to conserve vultures. In this case, conserving early rising raptors may help to boost the chance that vultures find enough food to survive."

Vultures play a key role in many ecosystems as recyclers of dead and decaying biomass. They also provide important services in reducing the risk of exposure to dangerous infectious diseases such as anthrax, and in the absence of vultures, feral and wild dogs that carry rabies can increase in number and pose a threat to humans.

Vulture populations have suffered worryingly dramatic declines in recent years and there is an urgent need for effective [management strategies](#) to conserve these important birds with a truly unique lifestyle. No species exist in isolation and the results of this paper highlight the vital importance of taking whole-ecosystem approaches for conserving vulture populations.

More information: Vultures acquire information on carcass location from scavenging eagles, [rspb.royalsocietypublishing.org/...
.1098/rspb.2014.1072](http://rspb.royalsocietypublishing.org/doi/10.1098/rspb.2014.1072)

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