

Vultures: a future foretold



A small plaque in the gardens of the Upper Belvedere Palace in Vienna, Austria, bears witness to the passing of its longest-living resident: not a princess nor an emperor, but a griffon vulture (*Gyps fulvus*). Acquired in 1706 by Prince Eugene of Savoy (1663–1736), the bird became part of a menagerie he founded on the palace grounds in 1716. An engraving from the early 1730s by Salomon Kleiner depicting the Prince's vulture collection may have captured the bird's likeness (<http://bit.ly/1rIvyVI>). Though the menagerie closed in 1752, Prince Eugene's vulture was allowed to live on in the gardens until 1823, when it eventually died after an apparent 117 years in captivity. Or so the story goes. It is unlikely that any vulture has ever lived so long, and given the challenges that Old World vulture populations currently face, it is becoming increasingly unlikely that any ever will.

The report of the *International workshop on poisoning and vultures – what is the situation in Africa and how can Europe help?* (8–11 Apr 2014: Ronda, Spain) highlights the African continent's tumbling vulture numbers: “decreases of up to 90% for some species have been detected”, “recent data suggest large declines in several vulture species across eastern

Africa (60%)”, “West Africa...most severe vulture decline in Africa: 96–97% for *Gyps* species in the last 35 years”, “Southern African vultures declining very fast”. Habitat loss is partly to blame, but intentional poisoning is also a major problem, and the communal feeding habits of vultures make it easy to hit scores of birds in one go. Carcasses are poisoned by those who see vultures as vermin, by those seeking body parts for traditional medicine, and even by those searching for powers of clairvoyance. It is a widespread belief that vultures can see into the future; how else could they appear so soon after a lion makes a kill? Smoking a bird's brain or sleeping over its head might therefore reveal a winning lottery number. Rhino and elephant poachers, however, have taken poisoning to a whole new level; they deliberately lace their victims' bodies with toxic chemicals in an effort to destroy vultures, whose conspicuous aerial circling can then never again tip off wildlife rangers.

Yet across South Asia, it has been unintentional poisoning that has devastated vulture populations, causing declines of some 98% over the 1990s and 2000s. The culprit: veterinary diclofenac, an anti-inflammatory drug given to livestock to reduce pain and thus maintain food production and work capacity. Diclofenac does a great job in cows, but in a white-rumped vulture (*Gyps bengalensis*) a dose of just 0.1–0.2

mg/kg body weight can cause rapid, lethal kidney failure and intestinal gout. Unfortunately, nobody knew this until India's vulture numbers had fallen from over 40 million to around 60 000, perishing as they cleared up the the diclofenac-treated cows and other livestock that died across the country. And it would not have taken too many treated animals to have a massive effect: one model suggests that India's vulture population collapse would have occurred if just 0.13–0.75% of dead ungulates carried lethal levels of the drug (*J Appl Ecol* 2004; **41**: 793–800). Many more did. Wisely, on 11 May 2006, India's Drug Controller General banned the manufacture of diclofenac for veterinary purposes. Other countries in the region followed suit.

Given this scenario, Spain's authorization of the veterinary use of diclofenac in March 2013 is bewildering, especially since safe alternatives are now available. With well over 50 000 griffon vultures, more than 4000 Eurasian black vultures (*Aegypius monachus*), 3000 Egyptian vultures (*Neophron percnopterus*), and 250 rare bearded vultures (*Gypaetus barbatus*), Spain is home to 95% of Europe's vulture stock. You never have to look too hard to find one. They soar above

farmland, wilderness, and even cities. And, of course, they eat dead livestock. European legislation once again allows dead farm animals to be left out for wild scavengers (the practice was banned for some years during the mad cow disease crisis), and many vultures feed at designated “vulture restaurants” where carcasses are purposely put out for them. But if animals can now be treated with diclofenac in Spain, what guarantee is there that a South Asian-style decimation will not occur? This is exactly what groups like the Vulture Conservation Foundation are asking as they lobby the European Parliament and Commission, as well as national governments, to ban the drug for veterinary use. The European Commission has now at least requested the European Medicines Agency to *examine the scientific merit of starting* a re-evaluation of its marketing permit in Spain (and Italy); a decision is expected in December this year. “How can Europe help Africa?” asks the above workshop's title. It remains to be seen whether it can help itself.

In his poem *Black Vulture*, George Sterling wrote: “Aloof upon the day's immeasured dome, He holds unshared the silence of the sky”. His words, of course, refer to the New World species *Gymnogyps californianus*, the California condor. I hope he was not clairvoyant.

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Griffon vultures (*Gyps fulvus*) in Spain.