

Analysis of Causes of Mortality for the Griffon Vulture *Gyps fulvus* in Cyprus

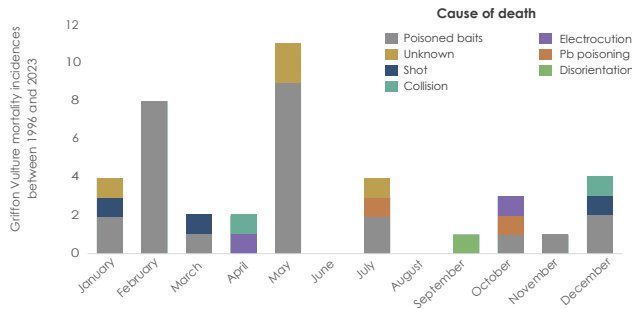
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INTRODUCTION

Griffon Vulture *Gyps fulvus* is the only resident Vulture species in Cyprus today. According to Flint and Stewart (1983), Griffon Vultures were abundant on the island in the first half of the twentieth century, with up to 140 individuals observed at a single carcass in the 1950s. In the latter half of the twentieth century, frequent poisoning incidents and decreased food availability (among other factors) caused a rapid and sustained population decline, leaving just 14 individuals in 2005 (BirdLife Cyprus 2005). Some subsequent increases to the population following restocking releases were undermined mainly by mass poisoning incidents. Within the framework of the project 'LIFE with Vultures CY' (LIFE18 NAT/CY/001018), we gathered scarce records of historical mortality incidents together with information provided by recently deployed GPS tags on birds in one mortality database, revealing the main causes of mortality to the Griffon Vulture population between 1996 and 2023 (May).

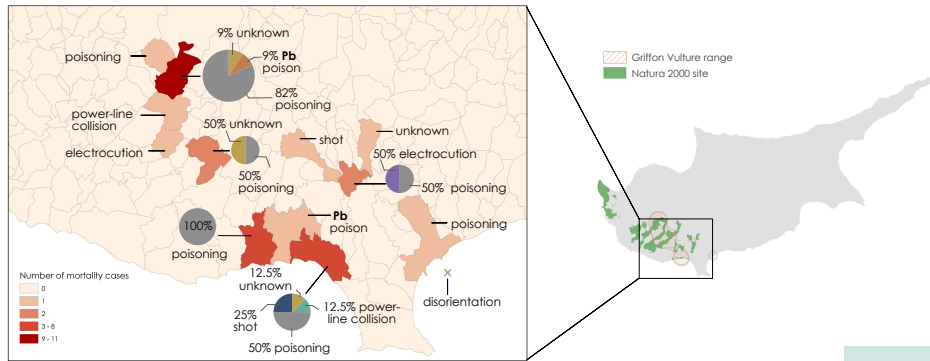
RESULTS

Seasonality in Recorded Griffon Vulture Mortality



Seasonality

February and May have the highest counts of vulture mortalities due to two mass poisoning incidents that occurred in 2016 and 2022. Large carcasses laced with poison are likely more often placed over the first five months of the year, targeting foxes in their reproductive period with possible aim to prevent attack on livestock during lambing season. Between October and December there is also an increased poisoning risk as illegal poisoned baits are often associated with hunting activities, which peak during these months.

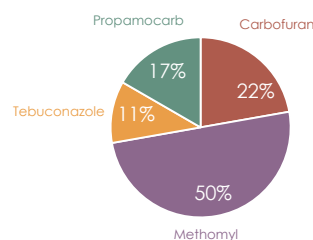


Spatial mapping of mortality incidences

From a total of 70 recorded deaths from the last 27 years, 94% of all mortality incidents were recorded within the recognised home range of the Griffon Vulture, while 46% of incidents occurred within the breeding sites of the species. Evidence from anti-poison efforts suggest that hunting zones and areas near livestock rearing units are of high-poisoning risk (Game and Fauna Service & BirdLife Cyprus, 2023)

Substances Detected in Poisoned Griffon Vultures

In collaboration with local authorities (Cyprus Police, State General Laboratory and Veterinary Services), necropsies and toxicological analysis were performed on dead vultures. Since 2016, four pesticides were detected in a total of 12 vulture carcasses. Toxic substances detected were predominantly Methomyl and Carbofuran which are highly toxic pesticides that have been banned across all EU countries. However, data shows frequent use of these substances on illegal poisoned baits that target predatory species such as foxes and dogs or hunting dogs to discourage hunting in specific areas.



70

Griffon Vulture deaths recorded between 1996 and 2023

56

Deaths due to poisoned baits



4

Deaths due to collisions & electrocutions



4

Deaths due to unknown causes



3

Deaths due to shootings



2

Deaths due to lead poisoning



1

Death due to disorientation & exhaustion



CONCLUSION

The main cause of Griffon Vulture mortalities between 1996 and 2023 was poisoning from illegally placed poisoned baits, with a total of 56 deaths due to poison out of 70 records (80%). Collision and electrocution incidents involving electricity infrastructure were the second highest cause of death, with all cases recorded between 2018 and 2023. The current rates of unnatural mortalities threaten the species with local extinction. Four partners (Cyprus Game and Fauna Service, BirdLife Cyprus, Vulture Conservation Foundation and Terra Cypria) have joined forces under the project 'LIFE with Vultures CY' and aim to prevent the extinction of Griffon Vultures from Cyprus. Mortality data provide critical information that guides the implementation of concrete conservation actions in a targeted manner. Through the project, electricity infrastructure is made safer through utility post insulations and overhead powerline markings to minimise collision and electrocution risk. Among other anti-poison actions, anti-poison dog units have already begun operations, patrolling countryside areas for baits to prevent and reduce wildlife poisonings, while a national anti-poison road-map is being developed to secure a better future for Cyprus' most endangered bird of prey.

Project Partners:



Co-funded by the European Union:



References

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 Flint, P., Stewart, P., 1983. The birds of Cyprus. Zoological Museum, UK.
 Game and Fauna Service & BirdLife Cyprus (2023). Anti-poison Dog Units: Annual Report 2022. LIFE PROGRAMME: LIFEwithVulturesCY (2019-2023). LIFE18 NAT/CY/001018.

