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VCF position paper on incidents between Griffon Vultures and live livestock

Abstract

This position paper aims to list some facts and considerations, to try to minimize the uncertainty, rumors and speculation on any future such campaign or spate of incidents, and contribute to a more rational debate. In a first part, we describe different facts concerning vultures and the incidents. About vultures, we assess how they are scavengers and not predators and give a view of the ecological and economic benefits of their presence. Then, we present the possible causes for incidents, the livestock species concerned, also how healthy animals are not at risk, and how most cases are misinterpretations, the rarity of these events and their negligible costs overall. In the second part, the VCF proposes several recommendations. We aim at encouraging the continuity of the investigations for each case even though they are rare. We call back the different rules and prohibitions concerning vultures and protected species. And we encourage improving the communication and raising awareness.

Introduction

Throughout the late 1980s and early 2000s, media, stakeholders and locals reported a sudden increase in alleged incidents between Griffon Vultures and livestock in some areas of southwest Europe. This increase has locally been exploited by some stakeholders, and created regular media frenzies, with local and national media accusing the vultures, always respected by their scavenging role, of becoming predators.

Similar episodes and media frenzies have now been surfacing occasionally across the wider vulture distribution range, but especially in Spain and France, where Griffon Vultures are most abundant.

A socio-economic analysis of the 2007 incidents in France, and the corresponding media campaign (Busca *et al.* 2009) has concluded that

i) the communication conveyed at the time suffered from lots of scientific uncertainties
ii) rumors spread faster than the facts and the established knowledge.

A recent review paper on this emerging conflict in northeast Spain has also concluded that lack of scientific data and magnification of the problem by the media are increasing alarm amongst the public, and political pressures to implement decisions have not been based on scientific evidence (Margalida et al. 2014)

The current position paper aims to list some facts and considerations, to try to minimize the uncertainty, rumors and speculation on any future such campaign or spate of incidents, and contribute to a more rational debate.

The Facts

1. Vultures are not predators, but scavengers

Vultures are **almost exclusively feeding on dead animals**. They are considered as the only obligatory scavengers among vertebrates (Mundy et al 1992) as the morphology of their feet and beaks does not allow them to catch and kill live animals like eagles do. Furthermore, their huge size and wingspan, allowing efficient soaring flight, is a handicap for maneuverability necessary to catch live and healthy animals.

Out of the four European vultures, mainly the Egyptian Vulture does normally (and rarely) include live prey in their diet – usually tortoises, other reptiles and small mammals (Cramp & Simmons 1980; Ceballos & Donázar 1990; Vlachos *et al*. 1998). Black vultures have also been observed killing rabbits and other small vertebrate species, but only sick or injured animals (Donazar 1993).

2. Incidents – healthy animals are not at risk

In rare cases, vultures can kill and eat an animal that is not yet dead (Houston 1974, Cramp & Simmons 1980). However, the vast majority of these cases relate to **severely wounded or sick animals**, often trapped (in snow, mud, fences, bushes, etc.) or otherwise paralyzed. The typical case relates to a cow or sheep paralyzed and immobile following complications giving birth, and lying down with very limited movements. In a behavioral sense, such an animal is “dead”, hence stimulating vulture action. In most of these cases vultures only anticipate the real death of an animal already condemned.

These incidents between vultures and livestock are rare events, mostly associated with poor husbandry practices (leaving sick animals unattended, or wounded animals).

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3. Incidents – possible causes

These **incidents are not new** – they have been reported as early as 100 years ago (Miègemarques 1902) – when already reported as "exceedingly rare or exceptional", but a thorough scientific analysis and quantification has been lacking (but see Arthur & Zenoni 2010, Camina 1995, 2011, Margalida et al 2014 for first attempts).

In the recent past, at certain times and in certain areas, there has been an **increase in the number of reported incidents** where vultures allegedly "attacked and killed" livestock. This was the case in northeast Spain 2006-2010 (Margalida et al, 2014), in the French Pyrenees in 2007-2008 (Arthur & Zenoni 2010) followed by Causses and Alps in 2009-2013, in Extremadura-Andalucia in 2012-2013 (Informes Anuales del Plan Regional de Recuperación y Conservación de Aves Necrófagas, Junta de Andalucia), and in other regions in Spain (Camina, unpublished data).

The number of **confirmed cases also significantly increased** in the last few years, at least in northeast Spain (Margalida et al 2014).

Some of this **increase has been associated with the fact that large vulture populations found themselves suddenly without food, following the implementation of EU sanitary legislation** in the 2000s (Regulations CE 1774/2002, 322/2003 & 830/2005), introduced after the outbreak of bovine spongiform encephalopathy (BSE) (Camina 2004, Margalida et al. 2014). The new livestock policies then adopted greatly restricted the use of animal by-products not intended for human consumption, introduced the compulsory removal of all carcasses of domestic animals that died in the fields for incineration, and closed the traditional collective feeding stations "muladares" in Spain. This resulted in an 80% decrease in the number of carcasses available to vultures (Cortés-Avizanda et al 2010). In Aragon province alone, 203 "muladares" were closed in 2003, causing a trophic deficit for scavenger birds of *circa* 6 tons/day.

This increase has not been confirmed everywhere. For example, in the region of Grands Causses, the number of inquiries of farmers has increased but the analysis of the conclusions of the necropsies shows that the number of confirmed cases has stayed stable, very rare and without any correlation with the regular increase of the local Griffon Vulture population. This number is on average, around 2 cases per year (Duriez et al 2016). It is interesting to notice that in this region there has not been any decrease of food availability for vultures.

This situation in Spain has recently been corrected by new sanitary regulations, that now allow the disposal of carcasses to feed vultures and other scavengers, but the earlier strict sanitary regulations, and the pattern of food availability and disposal that followed, seems to have caused not only demographic and population dynamics changes in vulture populations (Margalida & Colomer 2012), but also habits shifts, with vultures now tolerating human presence to within a few meters (Zuberogoitia et al 2010).

The **increase in incidents could also be related with the widespread changes in livestock farming practices** occurring in southern Europe. With less and less shepherds and guarding dogs tending to free ranging herds of livestock, the probability of contact between animals (including sick and wounded) and wildlife has increased (Margalida et al 2014). Changes in the type of stock reared also may play a role: in the French western Pyrenees, a past hot spot for reported incidents (73% of the total in the French Pyrenees, many related with cows´ births), 95% of the bovine stock is now comprised of the breed "Blonde d´Aquitaine", which reports more "difficult births" (11%) than other more traditional breeds that have now disappeared from the region (Orabi 2011).

4. Incidents – most cases are misinterpretation

In Andalucía (southern Spain), only 10-20 % of incidents were confirmed as genuine (data from Junta de Andalucia).

In northeast Spain, a recent analysis with data from 1996 to 2010 have demonstrated that on average **69% of the complaints made annually were rejected** because of a lack of evidence about whether the animal was alive before being eaten (Margalida et al 2014).

In the Grands Causses (France), <10% of the reported incidents were confirmed as *ante-mortem* consumption which represents less than 2 cases per year. In most reported incidents people (including farmers) misinterpreted vulture normal behavior (to rapidly concentrate in large numbers at a carcass), and report the "kill" without seeing themselves the "attack" – just the animal alive some time before, and later dead with vultures perched and feeding on it (Duriez et al 2016).

There is some evidence for a "contagion effect" of claims, or patterns associated with one particular region (cluster) or one particular farmer (Camina 2011, Margalida et al 2014, Duriez et al 2016), suggesting often these **allegations have different motivations**. Data suggests that in areas where a

compensation method for losses exists there are more reported incidents than in others (Camiña, unpublished data).

5. Incidents – Species and Timing

Most of the incidents reported relate to Griffon Vultures only, whose population has increased significantly in Spain and in France in the last decades, and mostly occur with cows and sheep (Camina 2011). A recent analysis for northeast Spain demonstrated that most of the cases occurred in areas of high livestock density, and affected principally sheep (49%), cows (31%) and horses (11%) (Margalida et al 2014).

In Griffon Vulture breeding areas, most of these incidents occur **between March and June, which is the time domestic ungulates give birth** (Camina 2011, Margalida et al 2014, Duriez et al 2016). 36% of the cases in northeast Spain were indeed directly associated with birthing (Margalida et al 2014). In griffon wintering areas (e.g. Andalucia), most of the incidents occur in early Autumn-Winter.

6. Incidents – absolute frequency: very rare!

In Northeast Spain, an area with a great density of livestock (>700,000 cows, 3.2 million sheep, 110,000 goats and 25,000 horses), the number of reported incidents between 1996 and 2010 totaled 1793, of which on average 69% were considered false (Margalida et al, 2014).

In the Grands Causses (France), the reported incidents were roughly estimated at **2 cases per year, relative to >3000 carcasses** consumed by vultures (Duriez et al 2016).

During the peak reporting period of these incidents in the French Pyrenees (2007-2009), vultures were involved in only 6-7% of the bovine mortality cases, and none in the case of goats and sheep (Arthur & Zenoni 2010).

In the Pyrenees, from 2007 to 2009, 111 incidents have been reported (complaints) for 183 animals (102 bovines, 74 ovines and 7 equines). In comparison, the livestock losses (all causes) in only two regions of the French Pyrenees have been estimated at about 9000 ovines and 2000 bovines. Among these 183 cases, 80 to 90 incidents *ante mortem* have been considered to be caused by vultures. However, when a proper veterinary evaluation was made, figures were even more reduced: out of 65 incidents with bovines, in only 4 cases Griffon Vultures caused the death of healthy animals

(usually giving birth), and in 11 cases they anticipated the death of a mortally wounded animal. Out of 28 ovines, Griffon Vultures never killed a healthy animal and only anticipated the death of 11 mortally wounded animals. **These would represent about 0.0007 % of the whole mortality in the Pyrenees** (Circulaire Gouv. Français, 2011).

7. Incidents – negligible economical costs

Ultimately, **the economic costs caused by these incidents at local, regional, national or global level are totally insignificant when compared with the benefits** (see below) that vultures provide.

A recent study in northeast Spain estimated that the **total economic cost of compensation** was €278,590 between 2004 and 2010 (Margalida et al 2014), so around **40,000 €/year**, which is negligible when considering the economic benefits brought by vultures.

8. Vultures provide huge ecological and economic benefits

Vultures **play an extremely important ecological service** in removing carcasses and dead animals from ecosystems.

In the French Pyrenees (832 pairs of Griffon Vultures in 2013, *circa* 3.600 individuals, in an area counting c. 700.000 sheep), about 840 tons of dead sheep are eaten every year by vultures. This represents *circa* 440 000 €/year in **economic savings** in terms of fuel, time, staff and carbon emissions that would be needed to collect, transport and incinerate these carcasses, following the current sanitary regulations (Orabi 2011).

In France, farmers who establish natural **recycling feeding stations** for vultures in their land get a 60% reduction in the tax on management of carcasses.

In Spain, it has been estimated that the scavenging actions of vultures **avoid emissions** of *circa* 200 000 tons CO_2/year, in case those carcasses had to be collected and incinerated in specialized centers (Robles 2010). A more recent modeling study estimated that it would be needed to cover almost 50 million km per year for trucks, emitting 77 344 tons CO_2/year to transport all the carcasses that are normally consumed by vultures each year in Spain (Morales-Reyes et al 2015).

Furthermore, vultures prevent spreading diseases among livestock, by quickly eliminating carcasses. Most livestock pathogens are destroyed in vulture's digestive tract (Houston & Cooper 1975, Roggenbuck et al 2014). In Africa, it was shown that the spread of livestock diseases increased 3 times after the recent decline in vulture populations, because facultative scavengers like dogs and hyenas are not as efficient in quickly eliminating carcasses (Ogada et al 2012). Moreover, the digestive system of these facultative scavengers does not eliminate the pathogen agents as efficiently as vultures' do.

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VCF recommendations

1. Risk will always exist, but losses are negligible

The VCF recognizes the risk of incidents between livestock and vultures, and the increase in alleged and real incidents in some areas. However, the number of confirmed attacks that result in loss of any domestic animals is negligible, and does not warrant any massive outcry. There are also solutions that can minimize such incidents (see paragraph 5.) and costs are negligible when compared with the benefits of vultures. This is a minor human-wildlife conflict, yet has generated unwarranted negative reporting, and created a totally underserved negative perception that has the potential to change a symbiotic relationship between man and vultures that has existed for centuries and millennia**.**

2. Recommendations for public wildlife managers

a. Economic costs of the few confirmed cases are negligible when compared with the benefits vultures bring

A simple cost-benefit analysis proves that costs are negligible when compared with the economic benefits provided by vultures. One option for the administrations and relevant agencies could be then to establish a thorough, but strict, compensation scheme, based on evidence collected by trained staff. This staff should be composed by a sworn agent (wildlife ranger) and a veterinarian independent of the farm. The role of this team of agents would be to determine:
1. Were vultures present?
2. Was the animal alive before the vulture's arrival? If not, it is just a regular feeding event on a dead animal.
3. What was the health state of the animal and was it able to move freely?
4. What was the vital prognostic of the animal? Was it condemned even without vultures? Or did vultures aggravated the situation or provoked the death?
However, the risk of establishing a compensation scheme would be to invite more farmers to complain, in order to receive money.

b. Investigation of incidents should continue to allow for proper quantification, and objectively identify misinterpretations

It is very important to have a system in place, with wardens, technical staff and veterinarians trained to regularly inspect any claim of an incident between vultures and cattle. Administrations should be ready and responsive to this

issue, and data should be analyzed and published, so that rumors and misinformation do not cloud the debate.

c. Transposition of EU new sanitary regulation and adequately managing food resources could help to reduce risk

The probability of incidents is probably much smaller if there is a stable availability of food in a natural, unpredictable, pattern. EU regulations have been modified in 2011 to allow for the traditional practices of animal corpse disposal in the countryside (CE 142/2011, laying down rules for alternative uses - including for vultures, of annual byproducts not destined for human consumption). Countries and regions that have not done so should transpose and implement these regulations as soon as possible to take advantage of the presence of vultures and avoid further incidents. This solution is the cheapest for the farmers and/or for the government (who do not have to pay to get the carcasses removed), for the administration, and the best for vultures.

Further, establishing natural recycling feeding stations (sites where farmers leave dead livestock when available, like the light feeding stations used in France), may also help reduce this problem. In the French Grands Causses, data suggests that incidents occur mostly outside the areas where these natural feeding stations are settled (Duriez et al 2016)

3. Recommendations for farmers

a. Minimize risk by adopting adequate livestock management

Animals should be, within reason, shepherded and checked to identify and eliminate, as much as possible, cases where immobile and wounded animals are unattended. Wounded and sick animals should also be adequately managed, and during the livestock delivery season, suspected cases of difficult births should be adequately dealt with. Shepherds should adopt appropriate livestock sanitary regulations and regular health inspection.

b. Poisoning and shooting are illegal and scaring is not the solution

Poisoning and shooting of vultures and wildlife is illegal. Scaring vultures does not work and should not be recommended.

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4. Recommendations for communication officers, media and NGOs

a. Raising public awareness about the role and behavior of vultures should continue properly

Often, reported incidents come from areas where vultures are not very well known. Their presence in the area is often met with anxiety, which results in a higher number of reported incidents. This fact was particularly obvious in the French Grands Causses where most incidents originate from areas newly frequented by vultures where no education and public information has been done, contrary to areas closer to the colonies and reintroduction site (Duriez, 2016). Conservation organizations should continue to work with local farmers, local communities and media to inform them accurately about specific cases and the role, behavior and benefits of vultures in general.

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