

Griffon Vulture Monitoring in the National Park Hohe Tauern

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Abstract

The eastern Alps are regularly visited by Griffon Vultures during summer time. The Griffons arrive mostly from Croatia but also from other countries. In April the first individuals reach the southern Alps and 1-2 months later the Hohe Tauern National Park. The number of summer visitors decreased in the last years. In 2012 the numbers of birds observed were rather low (20 to 30 individuals). By contrast, a project for the conservation of the species carried out in Friuli (Italy) has seen an increase of the species and the establishment of some small breeding colonies. During the project synchronous counts are done at all roosting sites and results are compared with historic data. Several birds should be trapped and fitted with satellite transmitters in order to get data about use of roosting sites and food resources. The aim of the study is to explain the observed decrease and to provide data for the future management of the species.

Keywords

Griffon Vulture, monitoring, decrease, Hohe Tauern National Park

Introduction

Since ever Griffon Vulture (*Gyps fulvus*) spent the summer months in the eastern Alps (HERREN & HAURI 1963). However, the numbers have been declining since many years, probably due to the populations decline recorded in the Balkans (SLOTTA-BACHMAYR et al. 2004). Actually we can observe a strong decrease in the Hohe Tauern and a quite strong increase in the Italian-Croatian population. The number of summering birds is currently estimated at 100-150 individuals but not more than 30 birds reach the National Park. Griffons use a huge territory including mountainous areas of Austria, Slovenia and Friuli (I). The beginning of a restocking project in NE Italy in the late 80s changed the modalities of appearance of the species in the Alps. In fact, birds are flying northwards earlier and spend some time at the area of the feeding site in Cornino before flying into the Alps.

The main aim of the research project carried out in the National Park Hohe Tauern is to understand the features of summer aestivation in the Austrian Alps. To achieve such purpose, we monitor the number of birds, the most important foraging areas and roosting places (all located in the country of Salzburg).

The study and marking carried out in Croatia since 1990 (SUŠIĆ 2000) have allowed us to make interesting observations, documenting the movements of different individuals over the years. The results demonstrate that the great majority of the Griffons which arrive in the Alps come from the colonies in northern Croatia with approximately have 180 breeding pairs (SUŠIĆ, *pers. com.*).

The situation of the Griffon Vulture in the Hohe Tauern National Park

Historically up to 200 vultures have been reported to have spent the summer in the Austrian Alps, but the species has never been breeding in the area (TRATZ 1954-1955). The mean number of birds in the last decades was about 50 to 100 individuals. This number is very far from actual observation data. There is a continuous decrease from year to year. Several roosting sites are not used anymore. The actual number of birds does not exceed 30 individuals. We can yet observe regional shifts depending on the availability of sheep.

The first individuals arrive in April-May in the southern part of the aestivation area (Friuli and Slovenia), while in the Hohe Tauern they appear in June and mostly in July. Other arrivals are recorded at the end of August or during September when some young birds of the year appear, together with a few adults that have finished the breeding cycle. From September the presence of wild birds begins to low, in Friuli the majority of departures take place during October-November, in this area for a few years a number of birds (20-30) have begun to winter joining the colony on a permanent basis (GENERO 2000; *ined.*). In 2012 the last griffon vulture left Austria the 16th of October.

The situation in the eastern Alps changed in the last years due to a project carried on in NE Italy (GENERO & PERCO 1997). The aim of the project is the conservation and the reintroduction of this vulture in the eastern Alps. A relevant aspect of the project is the attraction that the colony and the feeding point exercise over Griffons arriving from other countries. These Griffons learn to be familiar with the area and return in subsequent years. The visit mode is extremely variable. Some birds remain for the entire summer, whilst others frequent the area for only a few days. Others still return regularly, coming from other Alpine areas or perhaps from even different nesting

colonies. The number of birds involved has risen rapidly in recent years, exceeding 200 in 2012. Most of the birds are in their second-fourth years but adults are also regularly observed.

The project in the Hohe Tauern National Park

Due to the importance of the Griffon Vulture for the Hohe Tauern area, in 2012 a project started with the aim to increase the knowledge of the appearance modalities of this species in the area. The research will continue for at least 3 years. First of all it was important to collect and analyze all the historical and recent data available for the area of the National Park. Some historical data are stored in the database of the “Haus der Natur” in Salzburg or by private people, yet most information about griffon vultures was collected during the Bearded Vulture project. This is an important source of data that has never been considered properly, even if it can give important information about the last decades. Unfortunately there are no continuous data about the main roosting site, located above the village of Rauris.

It is difficult to estimate the number of birds in the region, due to the different areas and roosting places frequented. In order to perform a detailed census, a simultaneous count of the main roosting places used by griffons in the Hohe Tauern and at the feeding point in Friuli was planned for the years 2012 and 2013. The study allows also to define the use of the different roosting sites used during summer time and connected with the importance of other factors like availability and distribution of food and management actions in the area. The project intends also to study the movements of birds and the connections with other populations. For this issue, more actions are planned, such as observations in some key spots in order to identify the marks of the birds (rings, wing tags and bleached feathers). In consideration of the small amount of birds with such marks and the difficulties related with observations at long distances, it is expected to catch some Griffons in the Nature Reserve Lago di Cornino and in the National Park area, so to provide them with suitable marking codes. An important point is the use of satellite telemetry. Due to GPS technology it is possible to study not only bird movements, but also some other aspects such as behaviour and activity. It is also possible to obtain accurate measurements of home range size, habitat use, territorial and seasonal behaviour. For this aim, 6 transmitters are expected to be applied on birds' backs in summer 2013.

To catch the birds in the feeding point in NE Italy and in the NPHT, different methods will be used: a cage, already built at the feeding point of Cornino, and a spring trap. The capture of the birds is also a good opportunity to perform sample taking, in order to test the presence of metal and of other pollutants.

Results

Capture of birds and application of satellite transmitters are expected for the summer 2013. In the year 2012 we started with detailed observations and simultaneous counts in the main roosting places in the Salzburg Region and in the feeding point in NE Italy. The results are summarized in the Tab. 1. Counts were carried out in 5 occasions from mid June until end of September.

Table 1: Simultaneous counts of Griffons in the main roosting places of Salzburg Region and in the feeding point in NE Italy.

Time	Krumltal	Rauris	Kaprun	Stubachtal	Felbertal	Hollersbachtal	Total	Friuli
15.06.2012	3	0	0	0	0	0	3	154
28.07.2012	0	0	9	17	0	0	26	51
17.08.2012	0	0	0	6	0	0	6	174
05.09.2012	8	0	0	14	0	0	22	158
26.09.2012	0	0	0	7	0	0	7	130

The results show the low number of griffons observed during the whole summer in the NPHT in contrast with the high numbers regularly monitored at the feeding place. The variability can be explained with regular movements between the two areas (the distances are about 90-120 km) apparently related with the presence of food in the mountains and the weather conditions. When the first snowfalls occur in late summer, vultures fly back to Friuli. It was possible to observe that traditional roosting places (Rauris and Krumltal) were rarely used during 2012, despite the continuous presence of some griffons (never more than 20) in the Krumltal. The most important roosting place in 2012 was the one in the Stubachtal (Fig. 1).

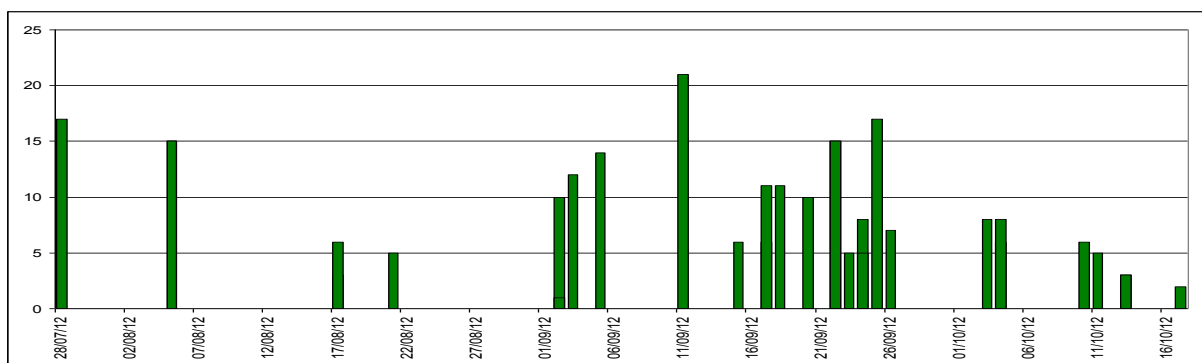


Figure 1: Counts of Griffons in the roosting place of Stubachtal (2012).

The roosting site in the Stubachtal was regularly frequented by a variable number of birds. In a few occasions it exceeded 15 animals and reached a maximum of 21 on the 15.09.2012. The absence of birds in some surveys demonstrate how fast vultures change their roosting site in relation to food supply and weather conditions. Nevertheless, the different numbers of the site Stubachtal are not correlated with other roosting sites in the area (Tab.1). Therefore it is possible that the birds had moved down to Friuli because of bad weather or little food availability. Another possibility is the presence of unknown roosting sites. Due to the high observation distances and a lack of observers in some areas it was not possible to recognise individual marks.



Figure 2: View on the Moosenwand in Rauris, the most important historical roosting site for Griffons in the eastern Alps. From 1991 the site started to be used rarely (Photo F. Genero).

Conclusions

Based on these preliminary results, it seems important to monitor birds movements in a coordinated manner in all the surrounding countries, in order to study the movements of the vultures and to better understand the strategies employed in the seasonal use of the territory. In the 2012, for the first time, a simultaneous count was carried out in the 6 main roosting places of the NPHT Salzburg and in Friuli. The first results confirm the decrease of the species in the Hohe Tauern in contrast with the increase in the southern Alps and in the colonies of Croatia. This trend could be also related to the strong attraction that both the feeding place and the colony located in Cornino play on griffon vultures.

The vulture project in Friuli brought to a general increase of the presence of Griffon Vultures in the eastern Alps. However, this increase is visible in certain areas, while other traditional areas show a heavy decrease in the number of summering birds. On the other hand more and more vultures coming from southern France have spent the summer in the western Alps over the last years (1500 birds during the Alpine griffon vulture monitoring day).

However, the reduced presence in Austria could be also related with the decline of the traditional sheep farming recorded in some valleys. In the central part of the National Park most animals that die on the alpine pastures are left on the ground, but in many other areas they are removed.

The research will continue at least for other 2 years and we expect to get much more information with the application of the satellite telemetry system in 2013.



Figure 3: One of the higher roosting places in the Hohe Tauern (Rauris Krumltal, about 2600 m) (Photo F. Genero).



Figure 4: The feeding point in Friuli attracts a high number of vultures
(Photo F. Genero).

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