

Struggling to save the Egyptian Vulture in Bulgaria

A beautiful popular book about the European raptors, written by French author Michel Cuisin and published in Bulgarian in the early 1990s unlocked my great love for these birds. It was the desire to watch and study the majestic birds of prey, which took me at least twice a week, mostly alone but with binocular and diary, to the gorgeous southern cliff slopes of Sinite kamani – the mountain just above my home town Sliven. Right there in 1998, at age of 16, a year after I joined BSPB, while biking towards one of the favorite raptor sites, I experienced my first, surprising and memorable acquaintance with the Egyptian Vulture. This stimulated the finding of their nest in 1999, where I spend almost a hundred hours in behavioral observations during the chick rearing period. The nest was well hidden on a ledge behind oak tree and what was my surprise when in August, in the morning just after the disastrous earthquake in Adapazari, Turkey, I saw a massive wooden ladder erected to the nest and the oak tree missing. After some time an adult came with food, landed in the forest below and I heard the begging calls of the juvenile. The next morning we found and returned the chick back to the nest, saving it from foxes and jackals. The eight meters high ladder took us quite an effort to overturn and take to pieces. It was made by treasure hunters, who have desperately and illegally dig for gold probably around each bigger cliff in Bulgaria. They did not return the chick to the nest, but at least did not harm it and I saw its first flights as late as the middle of September.

The glorious past of the vultures

Some 140 years ago A. Alleon and J. Vian, who observed and published on the migration of birds at the Bosphorus, Turkey witnessed flocks of thousands Egyptian Vultures passing by and mentioned them as being among the most abundant raptors during the autumn passage. At that time all these birds originated from the Balkans, parts of Romania, Moldavia and Ukraine and probably many thousands of pairs bred in this part of Europe. Only in Istanbul there had been maybe a thousand of pairs breeding on trees and buildings in the city boundaries, while in Bulgaria, a colony had been described breeding on cliffs in the town of Plovdiv. But now all is changed and the past reality is even hardly imaginable. Less than 100 remaining pairs in the whole Balkans are continuing to decline, while the species is already extinct from seven countries, surviving only in Albania, Bulgaria, Greece and Macedonia.

The Egyptian Vulture project

In 2003 the Balkan Vulture Action Plan was started – an initiative to conserve and restore the vultures' populations on the Balkans. Being part of this ambitious plan, in 2003 the Bulgarian Society for Protection of Birds (BSPB) led the coordination of a pilot project on the Egyptian Vulture, with main immediate aim to review the species' status, built knowledge on the limiting factors and address future conservation needs. The funding allowed buying of a 4 wheel Lada Niva, two telescopes, a salary for coordinator, funding for petrol and per diems and it was enough for a team of enthusiastic vulture lovers to check hundreds of cliffs throughout Bulgaria – occupied, old and possible breeding sites of the Egyptian Vultures. At that time I was a volunteer and together with Marin Kurtev - the then coordinator of the project, took part in the field work. The first two years were highly enthusiastic, when more than 100 volunteers participated and the insights into the particular threats facing each different breeding territory were deepened.

I took the coordination of the Egyptian Vulture work in 2007 and firstly concentrated at finding the nests of the few remaining more elusive pairs. With the increased fear of losing the species from

Bulgaria, the whole dimensions of the work quickly increased. At the same time our work urgently needed to start gaining more scientifically backed conservation style and the Science department of RSPB come to the aid, while in 2010 I started a PhD on the conservation biology of the Egyptian Vulture. Next year the National Species Action Plan, developed by BSPB, was accepted by the Ministry of Environment, making it the first such one for a bird species in the country. But the really worrying process, which advanced during the period, was the very steep decline of the species. The 57 territories occupied by pairs recorded in 2003, declined to barely above 30 now and similar trends occurred in all neighboring countries.

High mortality – the main reason for the decline

While during the years we were always struggling with funding difficulties, it was always the monitoring, remaining as basic and irreplaceable action. Having more than 200 historically known breeding territories in Bulgaria, there are always a number of sites, waiting to check for occupation. Data from 7 years on show breeding performance moderate for Europe, unable to explain the steep decline: 90% of the pairs which lay eggs are successful and the average number of fledged juveniles per monitored pair is 0,83 (n=245). Computer modeling with this data revealed that increased mortality is the key reason driving the extinction. Summary of all known data for adult mortality in Bulgaria during the last 18 years, shows information for 20 birds, from which 10 poisoned and 4 shot highlights the main threats. This is a lot to give direction for conservation work, but where do most birds die: in, or outside Bulgaria during the migration and wintering – a period covering more than half of the vulture's lives? The answer should outline the main geographical scope for work and the need for more hard data made us to start another important activity - the color ringing program. Its main expected result will be the measured survival. In the last three years we color ringed 77 juveniles, or 88,5% of all fledglings in Bulgaria.

About the vulture's food and health

The knowledge on the breeding success and survival is just the basis needed for good conservation planning. Willing to know what the birds eat and hence, how they can be poisoned, identified the need for survey on the diet. Aiming this, in three consecutive years, during nearly 70 visits to nests, we collected the food remains after birds' departure on migration. The identification of the material is finished and the results show very high diet breadth - 1640 recorded individuals of 107 species. The top prey groups are the land tortoises (389 individuals), livestock, poultry and domestic rabbits (197, 166 and 24 respectively), carnivores - foxes, dogs, mustelids, cats and even 7 wolves (230), hedgehogs (169), European hare (71) and snakes (35). These are forming together 78% of the individuals in the diet, but unfortunately the survey does not allow estimation of the biomass and particular species (e.g. cattle) are probably heavily underrepresented. Most of the food is found on pastures and shrubland, surroundings of villages, sites for deposition of offal from abattoirs, rubbish dumps, while many animals are victims of the road traffic. The Egyptian Vultures also do actively hunt tortoises, lizards, frogs, small rodents, insects.

An important and timely supplementation of the diet survey was the start of the toxicological study, which was stimulated and the samples analyzed by colleagues from the Natural History Museum in Madrid. During 2008-2009 we collected blood samples from 32 juveniles and the results (still only partially analyzed) showed high prevalence of diseases, contaminations with antibiotics and heavy metals and generally bad health status of the fledglings.

The vulture restaurants

Worldwide, the supplementary feeding is a basic activity in the vulture conservation. The so called vulture restaurants provide uncontaminated food, increase the breeding success, allow easy monitoring, facilitate the development of ecotourism and raise awareness for vulture's conservation. However, since nowadays the breeding Egyptian Vultures are strongly territorial, only several neighboring pairs can benefit from a big supplementary feeding station, but still their highest density is around such regularly operating ones. Most of the carcasses (more than 10 tones provided per year at two feeding stations) come from local people calling us when they have some animal died. Last year we developed method of intensive individual supplementary feeding, using small quantities of food near the nest. It was tested with more than 10 pairs and turned out that since some are very quick at taking the food, others are continually reluctant. Curiously one of the supplementary fed pairs raised a chick that was the best fed and heaviest for its age. Envisaged as a key priority for the species conservation this activity is planned to continue and enlarge.

Saving of threatened nests

Struggling to go deeper into the specific threats for each pair and solve the most threatening of them, we inevitably reached the need to conduct nest guarding if we want to save particular breeding attempt. During one autumn, without our knowledge there was built a 40 meters long iron bridge, allowing access to an ancient cliff monastery from XIV century – traditional eryie of one of the last pairs of Egyptian Vultures in North Bulgaria. It happened under a municipality PHARE project for “development of the ecotourism”. Then a complicated bureaucratic process started - expression of an ultimate paradox. According to the project regulations, the facility has to function for at least 5 years after construction. That is why, in spite of being a violation of the Biodiversity Act, the Regional Inspectorate of Environment did not signed decision for removal, because did not wanted to risk the Municipality of being fined by the PHARE. In the first year the egg was smashed by visitors, the next year the birds moved to another cliff, but in the third they returned to the bridge and laid two eggs in the old nest. By organizing daily guard, during 122 days, more than 700 visitors were redirected from visiting of the cliff monastery and luckily the pair fledged one chick. The fourth year unfortunately was a failure, when in spite of the partial guarding (due to funding constraints), photographers caused heavy disturbance and the birds abandoned the clutch. Now in the fifth year the pair moved again to another cliff and we are waiting to raise again the question for removal of the bridge. In another case of guarding (due to threat from trophy collectors), our efforts saved the breeding when 5 days before hatching the male disappeared. An intensive supplementary feeding helped the female to raise the chick and astonishingly after 20 days the male returned with injured wing, barely flying. Being also fed, he slowly recovered in the following month, occasionally flying, but preferring to walk. Happily the next year the pair returned and even laid eggs five days earlier.

Another obligate activity – awareness rising

As much as our resources permit, we are trying to increase the sympathy of the local people to the vultures' conservation. During the years more than 10 various types of posters, calendars, stickers, leaflets and popular book in a total print of more than 10 000 copies, have been distributed among key stake-holders mainly from the local communities. More than ten TV reportages in national televisions and much more radio interviews and articles in newspapers and magazines, have raised awareness on the need to conserve the vultures. Plenty of information can also be found on the website devoted on the species: www.neophron.bspb.org. One thing, I believe is of utmost

importance is the global need for environmental education in the youths. In a long term it is the key to stop the habitat destruction and biodiversity loss.

But what about Africa

The scarce and still very worrying data for threats along the flyway hints for many problems once the birds are on migration. That's why we turned our sight to Africa and the Middle East and in the last 2 years implemented three expeditions to Ethiopia and Sudan. Our team also helped twice the colleagues in Turkey in the field for starting of long-term survey of dense population near Ankara. In Ethiopia, together with the Ethiopian Wildlife and Natural History Society we visited the biggest known congregation of Egyptian Vultures – the Afar triangle, where 1400 vultures were wintering. Ethiopia, being traditionally raptors' heaven, showed alerting signs. The use of poison against stray dogs and carnivores is increasing, especially in the south. Last year, only in Negelle more than 300 dogs had been poisoned in just several days and nobody counted the dead Hooded vultures, which are said to be in decline, but still occurred in hundreds. Additionally, throughout the country, the expanding electricity network is taking use of new badly designed pylons, highly lethal for large birds. The electrocution was the reason to visit also Sudan, where more than 50 Egyptian Vultures were reported electrocuted in the early 1980-s. Last September, almost 30 years later, together with the Sudanese Wildlife Society, we counted 17 electrocuted Egyptian Vultures on the same spot. The power line is located at the Red Sea coast, near the big town of Port Sudan, right on the migration flyway. In the surrounding bare desert it offers suitable roost site nearby to slaughter house, big extensive livestock farms and rubbish dumps – attractions for the vultures. Knowing that it was built in the 1950-s, possibly more than a thousand vultures, using the place as a stopover, felled victims of the electricity. In 2010 Spartacus – a satellite tagged juvenile vulture from Bulgaria, reached central Chad and wintered there, but the signal stopped in January. Local Chadian team headed on special mission, just to reveal that Spartacus was killed by local nomads of the Goran tribe, who believed it is a bad magician, turned into vulture – a warning signal on the future use of satellite telemetry. Naturally we started anxiously wondering what would be the reaction of the locals in Africa to a bird with color ring and we are really in doubt whether to continue with the ringing. Next expedition to Chad and Cameroon scheduled for January 2012, is planned to map the major congregations of wintering vultures and survey the threats in the “Dead heart of Africa”.

Sadly, a number of new threats are revealed

Briefly marked they are the wind farms, bird crime in Europe and maybe the most worrying – increasing and spreading demand for vulture's parts in West Africa. Just to show the magnitude of the last one, in Nigeria, Cameroon, Niger, Mali and probably Chad (where most Balkan birds are wintering), all species of vultures are completely wiped out in big areas and continuing to decline due to persecution. In Nigeria, a single head of Rueppell's Griffon used as protection from witches and black magic, may price 20 US dollars – a huge amount for the local people. A whole set of new actions need to be started.

New challenges ahead

We never stop trying to improve ourselves in the effort to optimize the approaches for saving of the Egyptian Vulture. This year is marked by ongoing development of method to measure the survival of territorial adults, which relies on individual face recognition, using trap cameras. Moreover, in the very near future every single occupied nest and cliff will be supplied with several trap cameras in

order to detect human presence in cases of criminal activity. Another issue is that, the vultures are limited by the availability of suitable nest sites, which sometimes are totally lacking because of the scarcity of cliffs in otherwise superb foraging habitats adjacent to occupied territories. That's why, largely following the German experience with the Peregrine, we started constructing niches on well placed cliffs, having no suitable nest sites. Last to mention, we are involving devoted caretakers for every single Egyptian Vulture pair. They are local people of any profession, preferably have some preceding, own experience with the species and importantly - be able to show up as good ambassadors of the conservation ideas in the local community.

However, in the Egyptian Vulture conservation, there are threats for which it is really hard to plan successful measures. The illegal use of poisons against carnivores is one issue, extremely challenging and difficult to solve, often requiring well polished case specific approach. But the question, how to solve the persecution of vultures in West Africa, is even a more difficult one.

In spite of being really frustrating to see the disappearance of traditional breeding territories, we are optimistic for the mission to save the Egyptian Vulture. We formed a small and highly devoted core team of around 10 young people and in the years of intensive field work and shared difficulties close friendship emerged. Knowing that we are not alone in the fight to save this bird, with the years more and more people are joining the effort to protect the nature, part of which we are.

Lastly, since it is a German magazine, I would like to stress that there are at minimum three major contributions which Germany made to the Egyptian Vulture in Bulgaria. Firstly, FZS and DBU funded big part of the work in the earlier years and built capacity for the work on the species. Second, in 2009 I get six months scholarship on the Egyptian Vulture in Frankfurt funded by DBU and hosted by FZS, which actually inspired the start of the work in Africa. Last, but not least, since it is too sentimental for me, in 2007 when I took over the project coordination, I came to Nurnberg to buy a personal second hand Opel Astra specifically for the work, which covered over 200 000 km until 2011, or at least 80% of the project mileage.

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