

CONCLUSIONS AND SUGGESTIONS AFTER EEP-VCF STAFF VISIT AT THE RESCUE CENTRE GREEN BALKANS

Thanks the video camera the breeding behaviour Bearded Vulture pair at the Green Balkans rescue centre (GBrc) can be monitored continuously on line. During the last breeding season (2013/14) mating attempts could be observed but the female didn't lay. Also several aviary facilities showed not to be adequate for the species and didn't help to improve the pair bonding or stimulate the breeding behaviour: too short roof getting the nest wet by bad weather (rain or snow fall) or inadequate steps and perches being impossible to transport material to the nest or copulate properly because the lack of a stable base. Following the above mentioned, it was accorded between GBrc and EEP/VCF to invite Alex Llopis to visit the Centre and have a look at the Bearded Vulture pair and his installation.

Introduction:

Middle from July 2007, GBrc received a young BV pair born in 2006 from the EEP. Unfortunately the male, BG 496, died one month later because was mortally injured by his female. On April 2008 the female received a second male born in 2005. The female BG 483, with ascendancy 25% Crete and 75% Asia, is a descendent from a breeding pair host at the Richard Faust Centre (Austria). The male BG 461, with 100% Asia ascendancy, is a descendent from a second breeding pair host at the Richard Faust Centre (Austria).

During the whole day from 10 and 11 of August, I had the opportunity to visit the whole centre, especially the Bearded Vulture aviary, monitor the pair and to meet the whole staff from the GBrc, exchanging knowledge with them in relation vulture behaviour, infrastructure of aviaries and their sense, artificial incubation and rearing, etc. with pictures presentation. Also I visit other vulture aviaries and exposed several proposals how to improve their accommodations.

The Bearded vulture aviary:

Is a greenhouse adapted for housing large birds of prey. In the middle a mesh divided the greenhouse in two aviaries. Only the parts where neighbouring birds could have direct physical contact it's closed with wood. However, the closure is not 100% opaque, because cracks between the timber permit having directly contact between breeding birds (picture 1). On the separation mesh wall, between both aviaries, there is a security cabin with a double door system (picture 2). On the right a Griffon Vulture breeding pair is hosted and on the left the Bearded Vulture pair.

Perches -branches with a diameter around 8-12cm thick- are installed 80 to 100cm from the side throughout the aviary. Their holding arms system is not secure (picture 3).



Picture 1-3. The wooden closure between both aviaries is not 100% opaque. Only over the security cabin it shines the sun during the morning. There are only branches as perches. The holding arms system for the perches is dangerous.

The whole aviary is covered with vegetation, being completely shadowy and only in the morning on the security cabin it shines the sun (pictures 2, 4 & 5).



Picture 4-5. The whole aviary is covered with vegetation, being the aviary too shadowy.

A nesting-platform (about 2 x 1,5m) is installed at the other end of the entry. Under the nest, about 80cm from the ground there is a second platform. Only steps are installed for climbing to the lower platform. The roof is covering only the nesting-platform, being impossible to avoid getting the nest wet by windy and raining days (picture 6).

A drinking bowl exists at the opposite side of the nesting-platform near the entry.

In the middle of the aviary there is installed a mud bath directly on the ground, which is completely dry (picture 7).

A wooden feeding point is installed 2m from the entry, being necessary to entry in the aviary for providing daily with food (picture 8). A second wooden feeding platform is installed 1.5m from the ground near the nesting-platform (picture 6).

Additional three trees are growing inside the aviary.



Picture 6-8. There are no steps for climbing at the nesting-platform. The mud bowl is installed directly on the ground. Food must be provided entering daily in the aviary.

Pair monitoring:

During the visit we could observe that the birds have difficulties to climb up to the nesting-platform. Much difficult it would be by transporting food or nest material up to the nest. The GBrc staff confirms that daily the male sits over the security cabin during the morning. Is the only moment and place where the sun shines inside the aviary.

Meeting with the Green Balkans rescue centre staff:

Sunday afternoon and Monday morning, was possible to meet the whole staff and transmit them the first impressions and expose the conclusions and suggestions for improve the aviary, giving the birds better conditions and consequently increase their well behalf. Also we could discuss about Bearded Vulture behaviour, artificial incubation and artificial rearing of chicks. All was graphically accompanied with pictures for better understanding.

Conclusions and suggestions:

All the conclusions as well suggestions were directly transmitted to the GBrc staff. Nevertheless, following are mentioned the exposed suggestions to keep them in mind.

- As the outside young trees (picture 5) aren't able to make shadow at the aviary, is recommended the **remove 2/3 of the vegetation which is covering the aviary**: the 1/3 over the nesting-platform and the 1/3 over the drinking bowls. The middle 1/3 of the aviary, the vegetation should be maintained for offering shadow during the hot days in the summer.
- To prevent injuries caused by collisions, the **three trees growing in the middle of the aviary** should be **removed**. These are obstacles that by other facilities have already caused the loss of several individuals.
- The nest-platform is too small for keeping both individuals inside with enough space and there are no other possibilities. Building a second platform will give the birds enough space and provide the subordinate bird with somewhere to shelter in bad weather. Is recommended to **build a second platform then the existing**.
- To prevent the nest from getting wet, the **roof should project out 1-1.5m** above the nest platform.
- Bearded Vultures are soaring birds of prey and are impossible for many of them, especially females and older birds, to access perches through flapping flight. Steps make it much easier for the birds to transport material to the nest (an important behaviour during the breeding season that reinforces the pair bond) and to bring food to the perches, where it can be handled more easily than on the floor. **Spiral steps** (20cm wide, 4-5cm thick, 150cm long, and with a height of 45-50cm between them) are the best option to **allow Bearded Vultures to access perches and nest platform**.
- **Immediately remove the branches which are installed as perches**. As Bearded Vultures are cliff breeders, perches need to be adapted to suit the anatomy of their feet. They should be **flat, around 20cm wide, 4-5cm thick** and also need to be **rigid enough** to prevent them from bending during copulation on the perch. Is recommended to install a **holding arm perches system which avoids collisions** with it.
- **Is recommended to feed the birds through the mesh**. We must remember their cage = their territory. Like in the wild, if you approach their territory the pair feels threatened and leaves the nest. Install a 90 x 90cm feeding place close to the security cabin and feed the birds daily through the cabin mesh without entering in the aviary.



- **Remove the two wooden feeding places**, because they fill the centre of the aviary and can cause collisions.
- Bearded Vultures only take a mud bath if the mud rich in iron oxide has the right consistence (sufficiently moist). To maintain the mud moist is necessary to install an impermeable structure where the mud can be placed. We recommend the **build a concrete mud bath between the drinking bowl and the security cabin**, far away from the nest platform.
- Direct visual contact from the nest between neighbouring pairs can lead to birds neglecting incubation due to being more concerned with defending their territories. We recommend to **close the cracks between the timber** for avoid the directly contact between the two breeding species.

Additional suggestions for other vulture aviaries:

- The Green Balkans rescue centre has 4 aviaries destined for vultures (Griffon, Black and Egyptian vultures). The cages are 8 x 6 x 4m high and completely closed without view inside.
- The cages are too small. In several countries, the animal protection law the minimum sizes for each species are determined. For a Bearded Vultures couples the minimum size is 60m². We suggest **lengthening the cage front 4m**.
- By birds the sight is the most important sense. Holding birds in completely visual closed aviaries provokes stress and this is counterproductive for the well behalf of the birds and breeding behaviour development. We recommended **lengthen the cage do it only with mesh**, giving the birds the possibility to control what happens outside the aviary.



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