

CONCLUSIONS AND SUGGESTIONS AFTER EEP-VCF STAFF VISIT AT THE PARC DES OISEAUX

Following the proposal from Parc des Oiseaux to participate in the Bearded Vulture EEP network, it was accorded between Le Parc des Oiseaux and EEP/VCF to invite Alex Llopis to visit the Parc, and have a look for the possibilities to house a pair of Bearded Vultures in their facilities.

Introduction:

During the last year Le Parc des Oiseaux by Villars-les-Dombes (Lyon), contacted the EEP coordinator and asked the possibility to participate in the Bearded Vulture EEP. After several e-mail exchanges, was accorded to invite Alex Llopis to visit the Parc and evaluate the two possibilities that Le Parc des Oiseaux suggested for holding a pair of Bearded Vultures coming from the EEP:

- divide the huge Vulture aviary in two, adapting a part for this species
- construct a new aviary in a new location, following the EEP guidelines

The visit was done on the 5th and 6th of November 2014. I had the opportunity to visit the whole Parc, especially the Vulture huge aviary, and the two potential locations for the emplacement of a new Bearded vulture aviary. Additionally I had the pleasure the meet the staff from Le Parc des Oiseaux with whom I could exchange knowledge in relation vulture behaviour, infrastructure of aviaries and their sense, artificial incubation and rearing, etc. with pictures presentation.

General aspects:

Le Parc des Oiseaux is located in Villars-les-Dombes, a 5000 habitant's village 40Km from Lyon, at the heart of the Dombes area of the Ain department (Rhône-Alpes region). The Dombes is characterized by an impervious surface consisting of boulder clay and other relics of glacial action. That's why a large number of rain-water pools are present and use for fish-breeding. Actually the number of water pools has been reduced at the half and they are periodically dried up so the ground can be cultivated.

Le Parc des Oiseaux is a zoo specialized in birds, which a big number of them are exposed in open enclosures, and others in huge aviaries where the visitors can observe the birds walking through the cages. The Parc is closed for the public, between the beginnings November until March.

The common Vultures aviary:

Is a huge aviary where visitors can observe three of the four European vultures walking through it: Griffon, Black and Egyptian Vultures. The aviary shows an artificial slope made with stones and stones plates, forming terraces where caves are built (picture 1-2). Birds can walk above the caves.



Picture 1-2. The common Vultures aviary. The visitors can walk through the aviary and observe several scavengers' species.

The aviary slope is covered with different type of trees and bushes. Also the east corner is densely covered with trees, and an artificial river is running through the aviary finishing in a basin. The full aviary is covered with a mesh size from around 10 x 10cm.



Picture 3-5. The slope is covered with trees and bushes; and an artificial river is running through the aviary ending in a basin.

Proposals for adapting the common Vultures aviary for housing a pair of Bearded Vulture:

The proposal from the Parc to divide the aviary in two was exhaustively analysed. The idea was to use the west part (sunny part) for the potential Bearded Vulture pair (picture 6).



Picture 6: In red section planned for the Bearded Vulture.

Needed modifications/adaptions

- Build a fence and the necessary structure for divide the aviary in two. Additional the necessary fittings for assure the physical separation with the neighbour species without obstructing sunshine.

- *Change the whole mesh for a smaller one (max. 10 x 5cm) for avoiding any accidents by collision with the fence. By using mesh size bigger than 2.5 x 2.5cm it will be necessary to install additionally the necessary measures for preventing the entry of small carnivores.*
- *Bearded Vultures as cliff breeders use small caves in the wild (90-120cm height), and well protected from bad climatology. It will be necessary to reduce the height of the caves (potential nest-sites) and enlarge the stone plates which are used as roof for assuring that the nest will be always dry. Is well known that Bearded Vultures by wet nest normally abandon the clutch.*
- *Bearded Vultures are soaring birds of prey and for landing need open and clean ground. To prevent accidents by landing it is important almost all the vegetation inside the aviary to remove. These are obstacles that by other facilities have already caused the loss of several individuals.*
- *Bearded Vultures are very sensitive during the breeding season. For assuring a good breeding success is important to offer the tranquillity required by the species. By installing visitor observatories, stress is minimised for the birds and the probability of injuries caused by flying into the sides is reduced. Aviary size can also be reduced.*
- *To avoid birds flying into the mesh, when they are disturbed or when they become violent (e.g. during attacks or when handling is taking place in the aviary), is very important to install perches throughout the aviary. Additionally this gives them the possibility to move around the cage without getting on the ground, especially when the nest must be controlled by the keepers.*
- *Build a second drinking pool and a mud bath.*
- *etc.*

During the same day, together with the Le Parc des Oiseaux staff, we evaluate the pros and cons by dividing the huge common Vultures aviary:

- ☞ the needs to realize all the modifications necessary for housing a bearded vulture and
- ☞ at the same time the safety distance for the other scavengers it will be reduced, especially if they are faced that the public walk through the aviary.

Finally was decided not to use the common Vultures aviary for house additionally a Bearded Vulture pair and construct a new aviary.

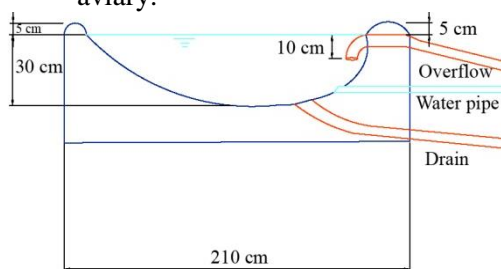
Considerations for building a new Bearded Vulture aviary and location in the Parc des Oiseaux:

All the considerations as well suggestions were directly transmitted to the Parc des Oiseaux staff. Nevertheless, following are mentioned the exposed suggestions to keep them in mind.

- After visiting the Parc, it was decided to **place the new aviary in the African bird area**. From a conceptual point of view, would fit perfectly that the last African presented species at the Parc will be the Bearded Vulture, which is present in the Northern part of Africa and historically part of the European meta-population.
- Additionally at the African area the cage would have a **north-south position**, ideal for the Bearded Vulture, because as winter-breeder species the nest could be positioned to the south giving the birds/chick the **most hours of solar radiation**.
- The front (south) of the place for the new aviary is covered with tress. Recommended to cut the whole trees, **leaving only a few on the west side**. Must be assured that in winter the birds will have enough sunlight and in summer up midday enough shadow.



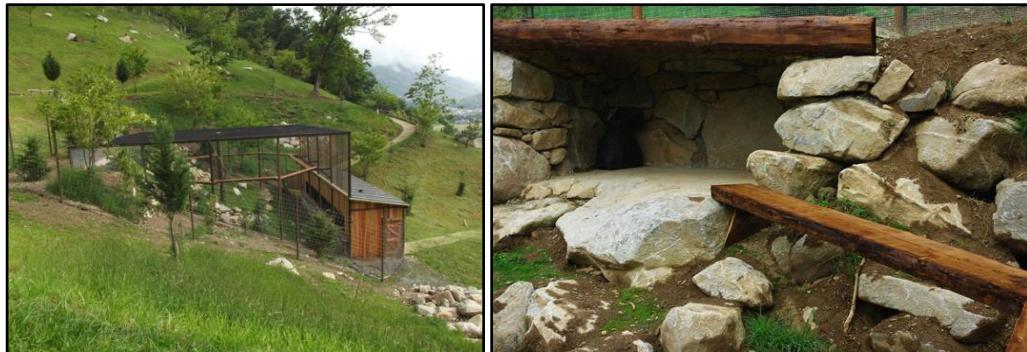
- The cage size should be 15m deep and 5m high. If the cage is **narrower than 10m, no pillar should be installed in the middle of the cage**. Up to 10m width, if is necessary to install a pillar, it should be round and thick enough that the birds can see it (min. 25-30cm diameter. Ideal a tree trunk). However is **recommended to maintain the middle of the aviary free of pillars** or other obstacles, like trees and vegetation.
- The Parc is located in a humid area, with a very wet ground. As Bearded Vultures are very sensitive to humidity (risk of aspergillosis), is recommended to **build a slope with stones and stones plates** like the common Vultures aviary. This **will reduce the humidity in the surface** and will give the birds better housing conditions. Further the structure of this slope will give the visitors an adequate picture of the natural habitat of the Bearded Vulture.
- The **slope allows nest monitoring by staff** and gives the **birds facility to climb** to the nest with food and nest material.
- The **nest** should be installed on the **top of the aviary** in a cave at the west side and open to the south. To prevent that birds can walk above the cave, the **roof of the aviary** should start from the **same level as the roof from the cave**. Install minimum 2 caves.
- Nonetheless to avoid injuries on the claws by landing on the floor is recommended the **first 5m be covered with grass**. A drinking pool and mud bath should be installed in this area.
- All birds of prey drink and bath regularly. And especially during egg formation, females drink large quantities of water. **Install a drinking pool in the grass area**. This should have a soft access ramp and be big enough to allow the birds to bathe (210 x 130cm wide and 30-35cm deep). Is recommended to install a **mechanism that allows the drinking bowl to be regulated from outside the aviary**, avoids any disturbances by entering in the aviary during the breeding season. A **closed current water system with filters**, like an artificial river ending with a basin (see common Vulture aviary) or a waterfall helps to maintain the water clean and reduce the necessity to enter in the aviary.



- Bearded Vultures develop the peculiar habit of bathing in mud rich in iron oxide. Although the reason for this behaviour is still unknown, they must be kept in captivity in good physical and psychological condition, offering them all available means of developing as many innate behavioural patterns as possible. Therefore it is recommended to **install a mud bath in the grass area** where mud rich in iron oxide can be provided every 15 days (1m in diameter, and 10cm deep). Use only mud **free of any toxic substances** (heavy metals or other organic contaminants).



- To prevent visitors to approach the cage sides was suggested to continue with the slope outside of the aviary and plant bushes.
- **Install perches around the aviary** (60cm away from the mesh and never higher than the nest). This gives them the possibility to move around the cage without getting on the ground, especially when the nest must be controlled by the keepers. 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. It is recommended to install a **holding arm perches system which avoids collisions** with it.



- The remainder aviary facility's needs (observatory for visitor control, access to the aviary, feeding places, etc.) and its dimensions should follow the guidelines for housing Bearded Vultures in captivity.
- The installation of a video-monitoring system in the nest helps by monitoring the incubation behaviour, hatching and rearing process, etc. The option to follow it via web, gives the EEP-coordinators, the possibility to advise the responsible team of the species.



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