

CONCLUSIONS AND SUGGESTIONS AFTER EEP-VCF STAFF VISIT AT THE POZNAN ZOO

Following the proposal from the EEP to transfer the alone staying Bearded Vulture female from Plock Zoo to Richard Faust Breeding Center, there was a possibility to visit Poznan zoo. Therefore between Plock Zoo and EEP/VCF it was accorded to take advantage of the planned trip, to invite Alex Llopis and Hans Frey to visit the Zoo, and have a look at the Bearded Vulture pair and his installation.

Introduction:

16th of November 2000, Poznan zoo received a young BV pair from 1999: male born in Hannover zoo, and female at the Richard Faust Centre. Unfortunately pair bonding could never be observed. Finally in 2010 was decide to exchange the female. She was sent to Nuremberg zoo for pairing with an alone male. On the 19th of September 2011, Poznan zoo received an immature female, born in 2008, coming from Centro de Cría Guadalentín (Spain).

During the 16th October morning, we had the opportunity to visit the aviary, observe the pair, and exchange knowledge with the staff in relation vulture behaviour, infrastructure of aviaries and their sense, artificial incubation and rearing, etc. with pictures presentation.

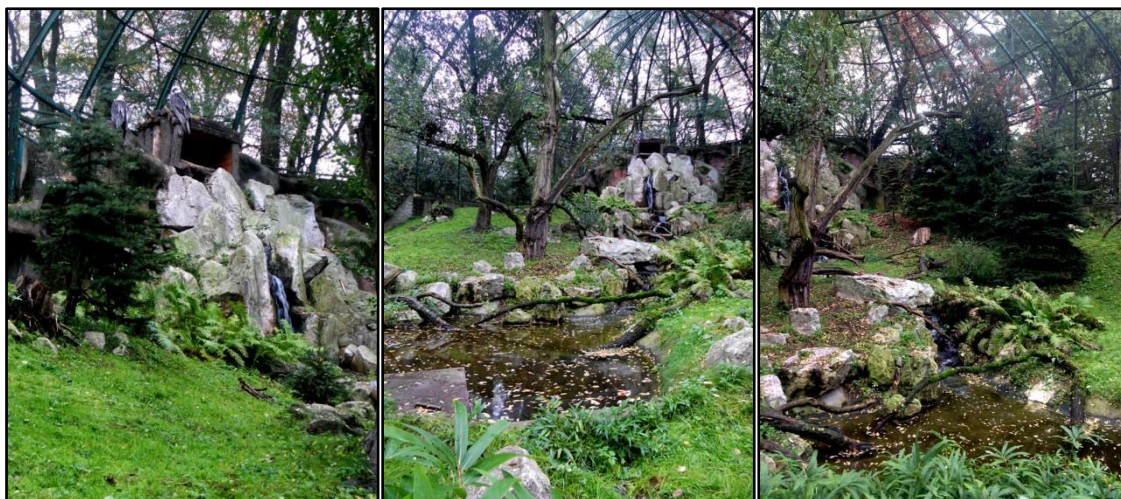
The Bearded Vulture aviary:

The Bearded Vulture facility is a huge round aviary (about 20 diameter and 10m high) with a domed roof. The aviary made of iron frame is covered with a welded elastic wire mesh (mesh size about 4 x 8cm). Inside there is a slope -covered with grass- going up to 4m altitude, and ending on the back with a 4m high cliff (picture 1).



Picture 1: Front view. The Bearded Vulture facility has an iron frame and a cliff at the end of the aviary.

On the top of the cliff there is installed a wooden cave, where a single nest is located. By necessity of a nest control, the cliff irregularities give the keepers the possibility to climb up to the nest without entering with hand ladders (picture 2). In the middle of the cliff rises an artificial waterfall. The artificial river runs through the aviary finishing in a basin (picture 3). As environmental enrichment on the left side of the river there are two 10m high trees (one of them dry) and on the right side several firs (picture 4).



Picture 2-4: The aviary has a wooden cave installed on the top of the cliff, an artificial river ending in a basin and each sides several trees.

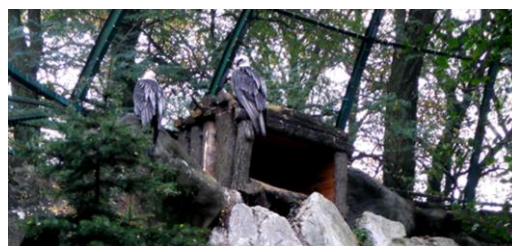
In the middle of the aviary they are several big stones as roosting-feeding places. On the right side of the facility there is the entry, from where daily the keepers enter for placing food on a flat stone in the middle of the cage (picture 5).



Picture 5: Food is daily placed on a flat stone in the middle of the aviary.

Pair monitoring:

During the whole visit, no signs of aggression could be observed between the pair. They spend almost the full visit time sitting on the wooden cave or cliff, (picture 6). From the keepers we were informed that the female block the male to enter into the cave if she is sitting inside.



Picture 6: Birds spend almost the visit time sitting close on the wooden cave or cliff.

Conclusions and suggestions:

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

- Bearded Vultures as cliff breeders use small caves in the wild (90-120cm height), and well protected from bad climatology. Is well known that Bearded Vultures by wet nest normally abandon the clutch. It will be necessary to **enlarge (min. 1m) the wooden roof of the cave** for assuring that the nest will be always dry.
- Bearded Vultures are very sensitive against humidity (risk to aspergillosis). To prevent to suffer aspergillosis, is very important to provide the subordinate bird (the male) with somewhere to shelter in bad weather. That is why we recommend **build a second cave or add a roof overhanging (picture 7) the top of the cliff with artificial cement (minimum 1.5m roof).**



Picture 7: Location for build an overhanging roof and give the birds a second covered location in the aviary.

- For preventing collisions by flying against the fence is recommended **to 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.



Bearded Vultures as cliff breeders, the perches need to be adapted to suit the anatomy of their feet. For assuring to maintain its balance on it is recommended to install **flat perches, around 20cm wide, 4-5cm thick** and also need to be **rigid enough** to prevent them from bending during copulation on the perch. The **holding arm perches system** should be sure against collisions.



- 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** where mud rich in iron oxide can be provided every 15 days (1m in diameter, and 10cm deep). The best location is **near the entry**. Use only mud **free of any toxic substances** (heavy metals or other organic contaminants).

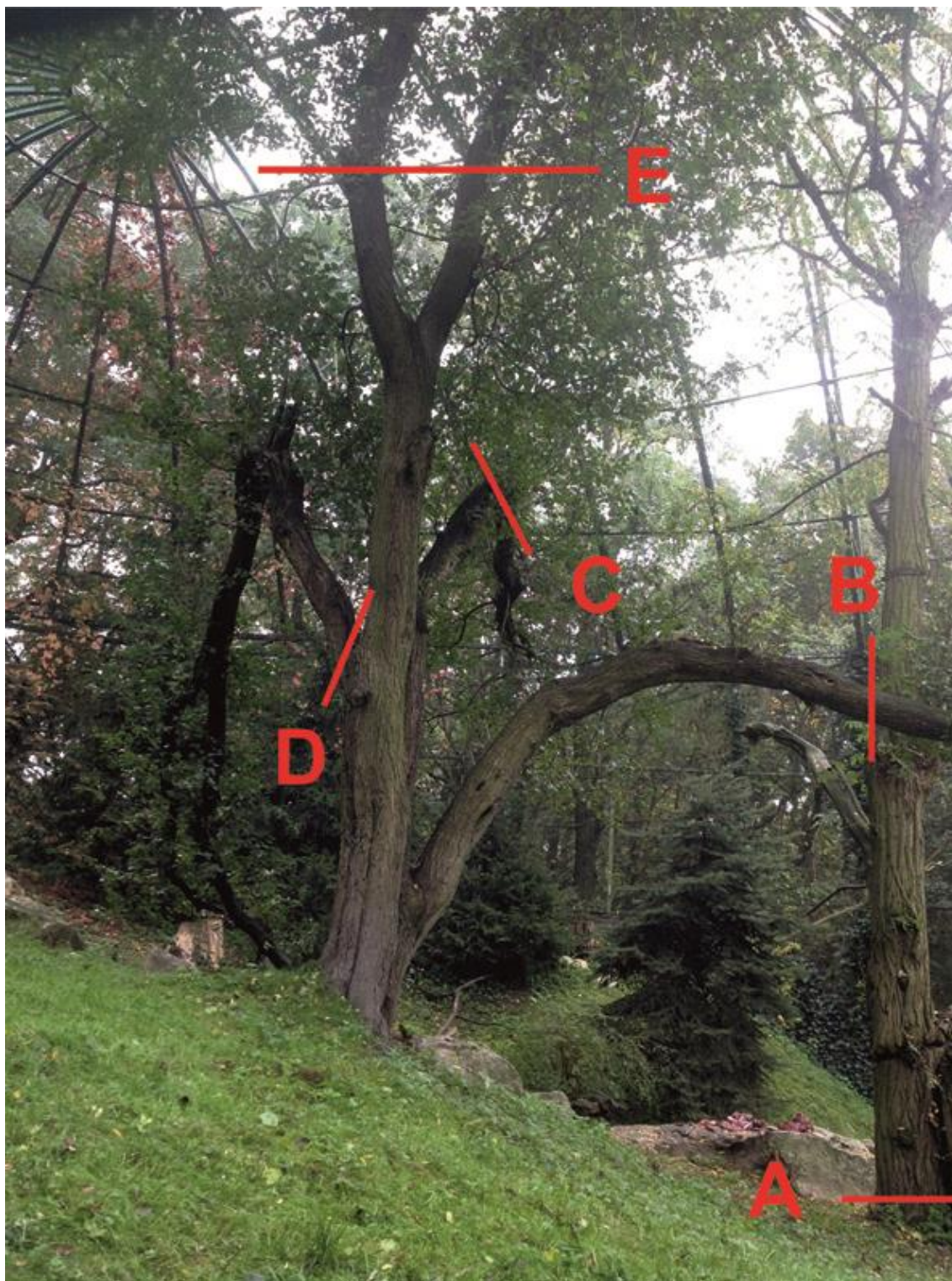


- Obstacles like trees by other facilities have already caused the loss of several individuals because of collisions. One stuck a branch deathly into the chest. To prevent this kind of accidents we **recommend remove the firs and the dry tree**.



For giving the birds additional roosting places, we suggest remodelling the 10m high green tree:

- Firstly cut the dry tree completely (picture 8, **A**) for avoid collisions.
- By the green tree cut the branches about 1m above the bifurcation and build a 1 x 1m wooden platform as roosting and feeding place (picture 8, **E**).
- Furthermore cut the branches **B** and **C** at the red line for giving the birds additional perches and climb up easier to the new wooden platform (picture 8).
- Remove completely the branch **D** (picture 8).



Picture 8: Green tree maintenance proposal. *In red the cutting zone.*

- It is recommended to avoid entering and crossing the cage for feeding the birds. 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 entry** where food can be deposited by only opening the door, without entering in the aviary.



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