

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

Following the proposal from the EEP to transfer the alone staying Bearded Vulture female from Plock Zoo to Richard Faust Breeding Center, for pairing with an adult male, it was accorded between Plock Zoo and EEP/VCF to take advantage of the moment of the female transfer, to invite Alex Llopis and Hans Frey to visit the Zoo, and have a look at the Bearded Vulture installation.

Introduction:

At the beginning of April 2007, Plock Zoo received a young BV pair born in 2006 from the EEP. On the 14th of February 2013 the female, BG502, laid for the first time a single clutch. Unfortunately 12 days later it broke. On the 18th of March, during a nest control, the male, BG490, flew against the fence and died because of the collision. The aim of this visit was to find which improvements can ameliorate the housing conditions for the Bearded Vulture.

During the 17th morning, we could capture the female for the transfer, visit the Bearded Vulture aviary, and expose several suggestions how to improve the Bearded Vulture aviary which are mentioned below.

The Bearded vulture aviary:

The Bearded Vulture aviary has an optimal size for housing a breeding pair, big enough for giving the birds the necessary escape distance from the visitors and not too big preventing to obtain a dangerous flight speed. The aviary is made of wood (picture 1) and the back wall is made of concrete with a nest in each corner: on the right an open nest and on the left a cave (picture 2). Outside it is surrounded with vegetation, giving the birds the necessary tranquillity to reproduce, because the visitors have only access/view from the front side.

The entrance to the aviary is visible to the birds and far away from the nest. The aviary has a security cabin with a double door system to prevent birds from escaping (picture 3).



Picture 1-3: The Bearded Vulture facility is a wooden aviary with a concrete back wall which includes a nest-platform at each corner. The entrance has a security cabin and is far away from the nest.

The aviary has reinforcement structures inside the aviary (picture 1, 2).

At the back wall there are three steps for climbing up to the nest. The aviary is full of vegetation (picture 4), stones and branches - with a diameter around 8-12cm - as perches across the aviary (picture 5) which prevent to fly and land without danger. Near the back wall there is a plastic drinking bowl.



Picture 4-5

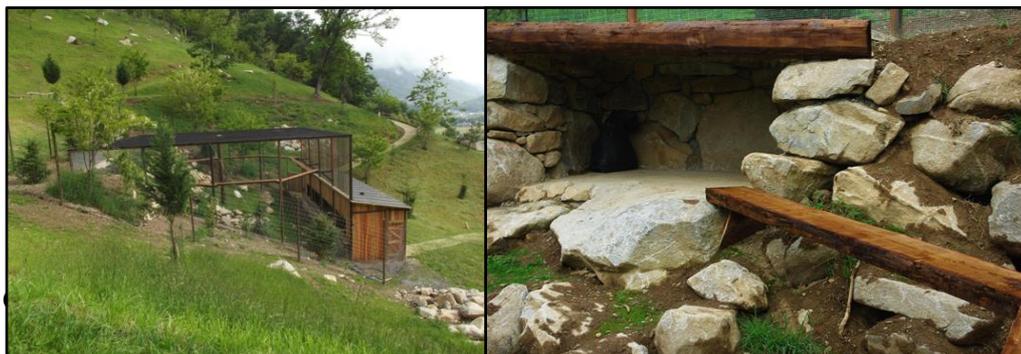
Conclusions and suggestions:

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

- To prevent injuries caused by collisions, **almost all of the vegetation inside the aviary** should be **removed**. These are obstacles that by other facilities have already caused the loss of several individuals. There is the possible to remain 1-2 small bushes.
- To prevent accidents by landing it is important to offer open and clean ground. **Remove most of the stones** on the ground. 1-2 bigger ones can be used as feeding place.
- Bearded Vultures are soaring birds of prey and it is difficult for them, especially for females and older birds, to access perches/nest-platform 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/nest, where it can be handled more easily than on the floor. **Add several steps on the back wall.**
- **Install fixed, permanent ladder structures**, to which the birds can become accustomed, and allow **nest monitoring, by staff**. Entering the aviary with a large and “noisy” foreign body, such as a hand ladder, can irritate the birds and lead to the loss of the clutch/chick or to collisions with the aviary sides.
- **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. It is recommended to install a **holding arm perches system which avoids collisions** with it.



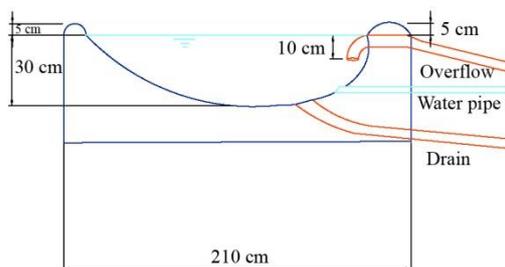
Install perches around the aviary (60cm away from the mesh and never higher than the nest). This gives them the possibility to move around the cage without getting on the ground, especially when the nest must be controlled by the keepers.



- **Remove the reinforcement structures inside of the aviary** which could lead to collisions.



- It is recommended to avoid to enter and cross 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 security cabin** where food can be deposited by only opening the door, without entering in the aviary.
- All birds of prey drink and bath regularly. And especially during egg formation, females drink large quantities of water. **Install a drinking bowl** in the middle of the aviary. 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). **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.



- 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). Use only mud **free of any toxic substances** (heavy metals or other organic contaminants).



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