As the adult pair of Bearded Vulture housed at Riga zoo yearly lays infertile eggs, Riga zoo asked the EEP coordinators their advice how to improve the Bearded Vulture aviary. For that Guna Vitola (Animal Collection manager) from Riga zoo sent us a report with pictures of the aviary for its evaluation.

Introduction:

Riga zoo has an adult pair of Bearded Vulture. The male born in 1999 at the Richard Faust Breeding Centre was transferred in June 2008 and the female born in 2001 at the Almaty zoo was transferred in January 2002. Following the information of Almaty zoo, the female had been hand-reared. Since breeding season 2010/11 the female lays yearly infertile eggs. Since today zoo staff could never observe mating attempts by this pair.

Riga zoo is a city-owned zoo, which in 1996 established a branch named “Ciruli”, situated in remote country side. Actually breeding facilities for birds of prey are located at Ciruli, and only two exhibits at Riga zoo. Both aviaries at Riga, where a pair of Bearded vultures and one of Black vultures are exhibit, are old.

The Bearded Vulture aviary:

The Bearded Vulture facility is an old exhibition faced southwest, and is visually separated from other birds of prey enclosures. It is 12m wide x 7m deep, and 3m on the front and 4.5 on the back high. The whole aviary is elevated (approx. a person waist height) and the public can observe the birds 2m from the front. The back is an artificial stone wall, where a platform crosses along the wall. The platform is 1.5m deep and 1.5m high. In the middle there is a small stone wall which divided the platform in two. By each left corner of booths platforms a 2m x 1.5m big nest has been installed. The nest has a wooden frame following the EEP guidelines. During the whole winter birds are provided with camel wool as nest material. The entry to the facility is from back below the nest (picture 1).

Picture 1: Bearded vulture facility front view. It’s a 12m wide aviary and elevated from the ground.
The whole enclosure can be divided in two with a metal fence barrier, by the same location where the platform is divided. The roof of the whole platform projects enough for assuring that birds can stay on it protected from bad weather and particularly the nest keep always dry.

Inside the aviary you can find several bushes as well wooden dowels which birds can use it as feeding place. Furthermore in the middle of the aviary some wooden pillars are installed which support several branches -with a diameter around 10-15cm- as perches crossing the aviary (picture 2).

![Picture 2: Side view.](image)

In one corner of the aviary there is a 1m2 mud bath and in the middle of the enclosure a 4.5 m2 shallow drinking bowl, which provides birds with running water all year round.

**Conclusions and suggestions:**

Although the enclosure is bad positioned in relation to the visitors, giving short security distance between birds and public, following the possible suggested improvements by the Bearded vulture aviary are exposed.

- Bearded Vultures as cliff breeders use small caves in the wild (about 90cm height), and well protected from bad climatology. Cave with a huge enter are avoided.

- To give the pair the feeling of cave, we suggest **build a second platform 1.5 x 1.5m at 0.9m from the roof**, in that corner where the sun shines during the morning. **On this platform build a nest 1.3 x 1.3m** exactly as is described in the guidelines for housing BV in captivity.
Obstacles like perches in the middle of the aviary or 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 all perches as well the whole vegetation.** This will give bird’s better surface to land.

We suggest removing the branches which are installed as perches. 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.

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. It is recommended to install a **holding arm perches system which avoids collisions** with it.

Furthermore it’s very important to have a system (wooden leader like EEP guidelines, or stones) for assuring that the birds can climb without problems up to the nest by transporting material or food. 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.

It would be advisable to change the entry to the aviary. It is recommended to avoid entering and crossing the cage for feeding the birds, particularly during breeding season. 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 new entry** where food can be deposited by only opening the door, without entering in the aviary.