Suggested Husbandry Manual for Griffon Vultures

This chapter aims to define the special needs of the captive Griffon Vulture *Gyps fulvus*. The information in this paper should be used in combination with the content of the more general husbandry guidelines for Falconiformes, such as the one written by Jemima Parry-Jones "Management Guidelines for the Welfare of Zoo Animals-Falconiformes" and others.

**Group size:**
Griffon vultures can benefit from being in a group. Groups of 2.2 and above (depending on the size and shape of the enclosure) will allow a choice of mates, and will promote social dynamics within the group. With groups consisting of breeding age individuals, if pairs are not formed within two years, it is possible to change/exchange individuals within the group to stimulate breeding behaviour.

**Enclosure size and shape:**
There are several points that should be emphasised when planning a Griffon vulture exhibit.

  a) Vultures need height, both for perching and nesting. Although distance from the public is important, many Griffons will sit close to the front of their enclosures if they are able to perch much higher (>4m) than the viewing public.
  b) At least one side of the enclosure must be undisturbed by the public or keepers (i.e. no access or visibility).
  c) Griffon vulture enclosures can benefit from a steep wall with terraces made from natural or artificial rocks. The terraces or ledges should be constructed so that the Griffons can make short leaps from one to the other.
  d) Logs used for perches should be placed at different heights. Different diameters of logs should be used and the surface of these perches should be rough and not smooth (old logs can be wrapped with ropes). Vultures often stand on the ground and therefore need space to take off and land. Feeding areas should be kept free of obstacles.
  e) Regardless of whether rock ledges or wooden perches are used, the major consideration is enclosure height and position of the vultures when they are perched.
  f) Size: depth from the viewing public is important. For a group size of four Griffons, a minimum reasonable enclosure size is 10m width*12m depth*5-7m height.
  g) A mixture of covered and uncovered areas is recommended, as vultures will often deliberately sit unprotected in the rain and will actively “sunbathe” with wings outstretched. However, there is a need to provide shelter from rain and/or summer sun.
  h) Potential breeding pairs should be given a choice of nest sites. For an enclosure containing 2.2 vultures, a selection of four nest sites is recommended.
  i) Breeding Griffons can nest in either nest boxes or on open platforms/ledges.
     a. Nest boxes: can be made of plywood 1.2*1.2 m in size and 30cm in height (open top...). The floor of the nest box can be solid plywood with drainage or a thick and dense mesh. If the nest boxes are placed
near the visitors, it is recommended that the walls of the nest box facing the visitors should be built higher (1 m). The back of the nest box should either be held by the rear of the exhibit rockery or be blocked by 1 meter height plywood wall. This will allow the nesting pair to approach the nest box only from the front. A perch or a rockery built about one meter in front of the nest box and slightly above it will allow the Vultures to stand near the nest box and either protect it, watch it (before jumping into it or while the partner sit in it) or declare it as the pair's nest place.

b. Platforms: should be at least 1.5*1.5m, attached to the side of the aviary (to provide a solid wall on one side) and have one or two perches. It is important to add an edge around the platform, and to provide some nesting substrate such as a mixture of sand and wood shavings (5-10cm depth).

j) Mesh can be made from welded or chain links metal with an eye/mesh size not exceeding 5*5 cm. In many places thick nylon netting (same eye/mesh size) is being used successfully.

k) Bathing, preening and sunbathing make up a large part of the daily activity of vultures. Fresh water is essential, and should be available in a bath at least 1m in diameter and 10-20cm deep. Vultures will often only bathe in or drink water that is changed virtually every day.

l) Food can be placed on the ground, depending on the enclosure substrate. It is also possible to construct a large washable platform for feeding.

m) Monitoring nests with video cameras is highly recommended.

**Food:**
- A diversity of food items is preferred. Whole carcasses or large animal parts (e.g. jointed beef) are preferred.
- When using large herbivores carcasses, a cut in the belly should be done prior to feeding.
- Chunks of meat (e.g. beef, horse, sheep, goats) can be used as long as they contain bones and bone pieces (about 1-3 cm pieces of bones should be placed near the food).
- Whole rats and rabbits are good sources for a calcium/phosphorous balanced diet.
- A weekly fasting day (or two) is necessary when the vultures are not raising chicks. Fasting days should follow a large feed on the previous day.
- Great care should be taken that birds do not become obese. If food is regularly found uneaten after more than a day then overfeeding should be suspected and body condition monitored.
- During the chick rearing period of the breeding season it is important to spread bone pieces (smaller than 1*1 sqcm) for the parents.

**Medical care:**
Two common problems that should be monitored and treated both medically and husbandry are Bumblefoot and Juvenile Rickets. Proper husbandry may prevent these problems.

Although generally resilient, older vultures can have increasing problems coping with
Cold weather, and may also develop cardiac and/or renal disease. They may fail to thrive or develop frostbite lesions on their feet. Such birds may need to over-winter indoors.

If a course of treatment is necessary, it should be noted that vultures are excellent at recognising drugs hidden in meat and rejecting them. It should also be noted that if on a course of oral drugs, birds should be handled and examined/ treated BEFORE drugs are given in food. Otherwise regurgitation and loss of the drug may result.

**Catching and restraining**
Griffon vultures are large, powerful birds with a pronounced beak. If handled incorrectly they are capable of inflicting significant injuries. Similarly, incorrect handling can easily cause injury to the bird.

Compared with other raptors the talons of Griffons are *relatively* weak for their size. However they do have a powerful grip, and although injury to a keeper is rare, caution must be exercised. The handler should primarily restrain the head.

In general, two people are required to capture and restrain a Griffon. The first person should secure the head and neck immediately prior to the second person securing the wings, body and legs. Care must be taken not to throttle the bird. A vulture that is aware of the fact that it is to be captured will usually vomit, and this reaction is likely to continue during restraint. Care must be taken so that the bird does not inhale regurgitated food – which can cause choking or inhalation pneumonia. For veterinary treatment purposes, the regular capture and restraint of a vulture should be a last resort. Due to their vomiting reaction, birds will lose condition quickly if captured regularly. Similarly, a vulture kept isolated for treatment can become ‘depressed’ (loss of appetite, lethargic behaviour, etc.)

**Incubation**
Incubation parameters are:
Temperature: Day 1-21 from lay date 36.6  
Day 21-54 36.0  
Day 54 (internal piping) till full hatch 35.5-36.0
Humidity: highly variable with an average of 40%rh
Kw: 0.000548