

Life in peace and harmony- working examples of mixed enclosures

Konstantin Ruske

Curator for collection and conservation



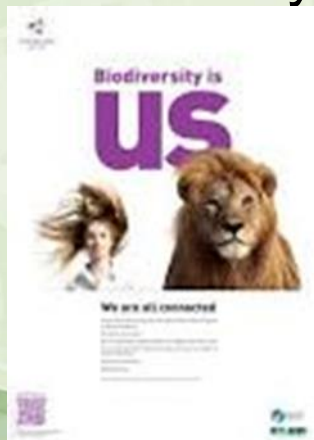
ZOOLOGISCHER GARTEN
MAGDEBURG

Loss of biodiversity in contemporary zoos ?



- Developments of Zoological Gardens over the last 2 centuries show clear trend towards constantly increasing space/kept animal
- -> number of species can only go down this way once a zoo has reached its final possible size
- Some western zoo- associations even propagates reduction of species trough extensive Regional Collection plans
- Contrary to one of our main aim:

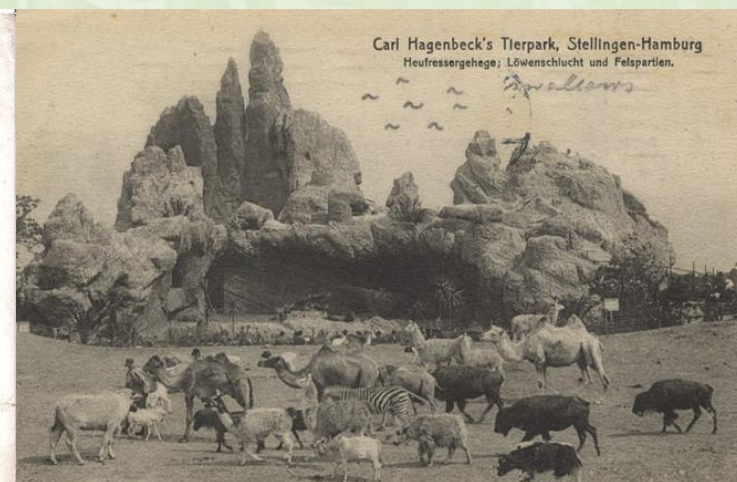
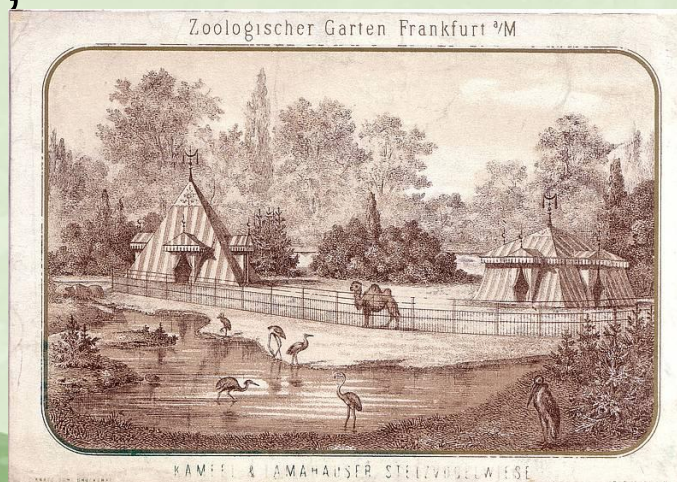
presenting and explaining
biodiversity!



Possible solution



- good solution for these problems in an inclusive way:
- keeping different animal species in the same enclosure (done with birds for a long time)
- practiced since the early tens of the 20th century when Carl Hagenbeck installed his „Hay- eater-meadow“ as centerpiece of his big panorama ensemble in his Animal Park in Hamburg-Stellingen, Germany



Mixed exhibits in Magdeburg Zoo-Quantification



- 107 different expositions for showing animals to the visitors
- More then 1/3 (44) contain more then 1 species
- Including standard combinations (several species of Malawi- Cichlids in one tank, an arrey of african duck species on 1 pond or Marabou storks on a savannah exhibit)
- But we tried during the last 8 years also some unusual mixings we would like to describe more in detail with experienced goods and bads



African exhibit part I

- (opened summer 2010), 790 sqm + 1400 sqm
- Main species: Black rhino
- - Mixed on 1 outside enclosure over the years with several primate species like:
- 1,1 Mona monkey, 2,1 Angola Colobus; 2,0 Black lemurs + 2,0 Crowned lemurs
- No problems at all, monkeys are careful and do not approach rhinos, monkeys need climbing structures and remote areas to rest and escape if necessary



African exhibit part II



- - Mixed on 1 outside enclosure with 1,3 Defassa Kob, 1,3 Blesbok, 1,3 Gemsbok, (all antelopes with juveniles), 3 Marabou storks
- No problems at all, antelopes prefer to stay with rhino more then with Grevy´s Zebras, only very few playfights between antelope bucks and female rhino, never real aggression or injuries, presence of hoofed stock seems to calm down nervous rhinos; antelopes need several passages (nonpermeable for rhino) to the big savannah enclosure/ smaller remote areas to escape in emergency case



Big savannah enclosure



- (opened summer 2010), 1 ha
- Mixing of 1,3 Rothschild´s Giraffes (with juveniles), 0,4 Grevy´s zebras,
- 1,3 Defassa Kob, 1,3 Blesbok, 1,3 Gemsbok, (all antelopes with juveniles)
- ☐ Grevy´s Zebras are curious and always interested in chasing antelope fawns(have to stay with mother 4-6 weeks in seperation paddocks after birth), some zebra specimen turned out to be incompatible with Blesboks- must be displaced, always easier to integrate new specimen which grew up already in company of other species in the zoo of origin; it is more difficult to add a complete new species then a new specimen of a species already known to the residents
- ☐ Males of waterbuck and Gemsbok have regularly conflicts, should not be out on the same time on the outside enclosure
- ☐ Several zones distant to each other are needed where antelopes, especially waterbucks can get away from the zebras (stone corrals, antelope- permeable fences) to give them rest and peace from the zebras when needed
- ☐ Alfalfa hey for giraffes has to be fed in a way that leftovers which fall to the ground cannot be eaten by the zebras (otherwise diggestion/ hoof problems likely!)



Amazonia enclosure I



- (opened autumn 2009) 2000 sqm outside, 200 sqm inside
- - Mixed on outside enclosure over the years with 5,1 Brown-nosed coatis; 1,2 White-nosed coatis (both coati species breeding)
- ☐ Outside no problems at all, tapirs and coatis mostly ignore each other, sometimes coatis scratch resting tapirs when jumping on them during playing, but tapirs seem to like the stroke, coatis are building tree nests outside
- ☐ Inside not possible, as coatis used tapirs as jumping platform to escape to the visitor hall- too dangerous in case of direct contact with visitors, too much scratching of tapirs when all the day together



Amazonia enclosure II

- Mixed outside/ inside with 0,2 and 2,0 capybaras from 2009 till 2012
- ☐ Outside no problems at all, but inside all capybaras attacked tapirs severely when they became adult as they wanted to monopolize the pool- combination had to be terminated; solution: seperate indoor stables



Squirrel aviary

- (opened autumn 2012), 33 sqm, 4m high
- Mixing of at least 2,2 Swinhoe´ s striped squirrel + 1,1 Temminck´ s Tragopan
- ☐ 1 st+ 2nd year no problems at all, both species bred successfully without any harming of infants of other species; 3rd year when squirrel group became too large they started to attack tragopan chicklets (but did not damage nest nor eggs), solution: when chicks have hatched they are transfered with hen to a seperate aviary, rearing can therefore not be watched by visitors



Baboon rock



- Opened at easter 2016
- Main species: Gelada baboon
- Mixed with 1,1 Rock hyrax
- ☐ No real problems so far, food dedicated for Rock hyrax has to be fed in the morning when baboons are still separated, otherwise food is stolen; hay put into rock gaps as protection from the cold for the hyrax has to be put in very deeply, otherwise baboons pull it out again
- 1,1 Blue winged goose, 1,1 African Black duck
- ☐ No real problems so far, but salad meant for the goose and ducks has to be thrown on the water moat distant from the baboon rock edge as otherwise baboons try to get it out of the water
- 1,2 Nubian Ibex (from April 2017)
 - No real problems so far, but fresh grass especially meant for the ibex has to be fed in the evening when baboons are locked inside for the night



Conclusion



- The examples named above show pros and cons of mixing different species:
- Pro:
 - -More species can be presented on the same ground space to the visitors
 - - each species is more interesting for the visitors due to combination with other species
 - - different species can stimulate each other which is a kind of behavioral enrichment
- Contra:
 - - Interspecific conflicts are more likely then intraspecific conflicts
 - - Separate feeding for food specialists at any degree is more difficult
 - - Enclosures have to be more complex to serve all needs
- For sure management of species is more sophisticated in a mixed species enclosure, but in our point of view it is worth the challenge when all interests are carefully considered in forehand.

