

Wir hatten Gelegenheit, Giraffen, Zebras, Gnus, Afrikanische Elefanten, Okapis, verschiedene Raubtiere und viele Vogelarten aus den Tropen in die Schweiz zu transportieren. Zum großen Teil benutzten wir Schiffe und Eisenbahnen oder Lastwagen, später auch das Flugzeug. Wenn eine Reise drei oder vier Wochen dauert, müssen die Vorbereitungen sehr sorgfältig getroffen werden. Die Behälter müssen praktisch eingerichtet werden, so daß Futter und Wasser gut verabreicht werden können. An Deck eines Frachters muß man den Platz so aussuchen, daß nicht zuviel Fahrtwind auftreten kann. Zugleich muß eventuell für Schatten gesorgt werden. Im Roten Meer war seinerzeit die Einwirkung der Sonne und die Hitze zu fürchten. Besondere Sorgfalt muß bei langer Reisedauer für die Fütterung aufgewendet werden. Die richtige Quantität Heu und Kraftfutter für Huftiere - lieber zuviel als zu wenig - und Fleisch im Kühlraum sowie lebende Mühner für die Raubtiere sind beizubereiten zu stellen. Beim Transport von Blattfressern, wie z. B. Okapis, sind genügende Vorräte an Ästen mit frischen Blättern mitzunehmen. Die Zeit der Ankunft ist mit Vorteil festzulegen, daß frisches Laub in Europa zur Verfügung steht. Wir haben keine guten Erfahrungen gemacht, als uns ein Transport frisch gefangener Nascoffen im Winter zugeschickt wurde.

Nach Ankunft der Tiere muß das Auspacken sorgfältig überlegt und ausgeführt werden. Es wirkt sich sehr günstig aus, wenn Huftiere und Affen in Ställen gebracht werden können, in denen schon Tiere gleicher Art leben. Bei den heutigen Quarantänebestimmungen ist dies wohl meistens nicht möglich. Daher sollte immer versucht werden, mindestens ein Paar oder gar mehrere Tiere zusammen zu transportieren, da sich die meisten Tiere in Gesellschaft wohler fühlen als einzeln.

In den rünfziger Jahren haben viele Tiergärten eigene Tiertransporte aus den Tropen durchgeführt. Wir haben damit sehr gute Erfahrungen gemacht, da die Tiere dem Menschen gegenüber viel vertrauter angekommen sind, und da wir stets genau wußten, woher unsere Tiere kamen. Das ist besonders für die zoologische Bestimmung wichtig. Zudem konnten wir gleich nach dem Fang und während der Reise gewisse Vorbeugungsmaßnahmen treffen, die sich sehr bewährt haben.

Heute scheint es eher Brauch zu sein, daß man Einzeltiere und Tiergruppen beim Händler bestellt. Damit weiß man oft nicht, woher die Tiere kommen und was für Krankheiten sie schon durchgemacht haben.

Beide Methoden haben Vor- und Nachteile, die vom Einzelnen selbst abgewogen werden müssen.

Zusammenfassung:

Es wird über Erfahrungen beim Transport von Großtieren berichtet.

Summary:

Experience obtained from transport of large animals is reported in this paper.

Резюме:

Il est fait état des expériences acquises lors de transport de grands animaux.

Резюме:

Сообщается об опыте при транспорте крупных животных.

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CAPTURE AND TRANSPORT OF ANIMALS FROM AFRICA TO THE
ZOOLOGICAL GARDEN OF DVŮR KRÁLOVÉ N.L. (CZECHOSLOVAKIA), 1967 to 1972

By J. A. Vágn er

Introduction:

Expertmembers of the staff of the Zoological Garden in Dvůr Králové n. L. (Czechoslovakia) have prepared a great project to build a new ecological zoogarden which they called SAFARI. This project has nothing in common with the attractive forms of "SAFARI 2008" in Britain, Federal Germany, France, and other countries. These usually are hastily built, and, especially in the winter season, animals suffer from poor accommodation in inadequately built living quarters, poor diet and sometimes even frost stresses. Our project is very expensive, and in compliance with the aims and efforts of I. U. C. N., W. W. F., and other international organisations dealing with nature and animal preservation, we intend to keep and breed some rare species of animals in groups or even herds under conditions and in facilities as perfect as possible. They are to be adapted to different living conditions, successfully bred and fully utilised alive and after death. Greatest attention will be given to social, cultural, and scientific aspects, to the fight for preservation of endangered species and preservation of nature itself. An integral part of this project is the effort to get most of the necessary animals organising our own capturing expeditions, in order to choose animals most suitable in terms of quantity and health. Capturing, preparation for transport and transport itself will be organised to keep losses as low as possible.

Areas of capture and their choice

Animals mentioned in table A and B were caught in Uganda, Kenya, Tanzania, South-West Africa and Cameroon. Only in 1969/70 capture and transport were organised merely from Uganda. During all other capturing campaigns we were in close co-operation with locally registered professional hunters or hunting corporations that have the necessary licenses for hunting and capturing.

The choice of most suitable areas for capturing was preceded by thorough field investigations carried out in cooperation with Game Departments and State Veterinary Offices of the countries concerned. Choice of areas was made with the following aspects in mind:

- distance of chosen area from railway lines or trunk roads;
- quantities of animals, characteristics of the open country, quality and number of labour available;
- distance from the sources of water, food supplies, necessary material for construction, etc.;
- general hygienic conditions, possible outbreak of epidemics.

Only after having evaluated these factors and having worked out several alternative solutions, the most suitable area was definitely chosen, and construction of a camp began. Once the camp was finished and all necessary material prepared, capturing started.

Methods of capture

Capturing of animals was carried out in several ways:

- by means of lassos from land-rovers of different sizes;
- into capturing enclosures by means of helicopters or small aircraft;
- by means of drug-cartridges immobilizing animals;
- by combination of lasso, enclosure, and immobilisation drug capturing.

In open bush country and in vast plains animals were caught mostly by lassos. The greatest number of animals was gained this way. In dense bush country or areas where

vehicles were obstructed by too many stones and rocks, animals were caught into circular capturing enclosures with diameters of 15 to 30 metres. In addition to helicopters and small aircraft, we sometimes used 30 to 120 beaters to beat the animals into these enclosures. All this work was organised and directed by radio. The flanks and the centre of the line of beaters were equipped with the radios, another one was in the aircraft and the last one at the gate of the enclosure. In front of the gate there were funnel-shaped barriers of thorny acacias and black plastic, sometimes several kilometres long. Different kinds of antelopes and zebras were caught in this way. Once these animals were inside the enclosure, tranquilizing antistress drugs were administered as quickly as possible, including CHLORPROMAZIN, a Czechoslovak long-effect product, or, for short-term effect, PENTHANYL and AZAPRONOL, two Belgian products. The drugs M 99, ACERYLPEROZAZIN or CHLORPROMAZIN were used only very rarely, mostly in 1967 - 70. When necessary, some very wild and psychologically difficult antelopes were kept under the effect of these tranquilizers as long as five to ten days, until they got used to the new environment. (Most of them were Roan antelopes, Lesser kudus, and Hartbeeste.)

Choice of animals

Not every caught animal is suitable for transport from Africa to Europe. Therefore, we worked out a method for strict positive choice in several stages which all animals had to undergo. During the capturing operation we tried to choose from the herds only young and strong individuals, absolutely typical of their zoological species, perfect in coloring and hair, without any smallest defect on their horns or appearance, with perfect locomotor system. When capturing by lassos from vehicles, the couraing was made as short as possible. When couraing lasted too long, with the pursued animal evidently slowing down in tiredness, capturing was immediately stopped. The duration of the pursuits was different, from 1 second to several minutes. The stamina of different animals even of the same kind is very individual and depends on many factors. Most valuable and most suitable were those animals that even after a several minutes pursuit did not show any signs of fatigue and exhaust. Because of high temperatures we organised capturing mostly during early mornings or late afternoons.

First observations of animal behaviour were already carried out during their transport from the bush country into the camp. If the animal, while transported in a wooden box, showing any signs of difficult breathing accompanied by spasmodic shivering and widened nostrils, the transport was stopped immediately and the animal set free into the bush.

The next choice was carried out during the animals' stay in the camp enclosures, while it was getting used to the presence of people. At the same time the food was slowly changed to that sort which the animal would get during the transport to Europe and during its prolonged acclimatisation period in our Zoo. Extremely wild and shy animals that could not adapt themselves to the above changes were set free to the same bush country sites where they had been caught. The same was done with animals that, after change of diet fed themselves very irregularly as well as with those of even slightly impaired state of health, psychological instability, and others that showed mental or physiological faults or had injuries during their stay in the camp enclosures.

In the last stage of their preparation for transport all the animals were gradually getting used to stay in the transport box. Only those animals that were able to feed themselves and to rest in the box were suitable for long transport. When all the animals caught during the capturing campaign stayed in our camp at least 30 days.

Transport

Some days before the actual transport, animals were put in the transport boxes so that we might watch their behaviour for at least three days. And it happened sometimes that some of the animals got in such a state after this last adaptation stage that it would be a great risk to try to transport them, and they had to be set free. For the transport we used several types of wooden boxes, and their choice depended on the means of transport used. Three types of wooden boxes made of strong, massive planks were used for transport by ship:

- a) narrow boxes in which the animal could not turn;
- b) boxes in which one single animal could turn quite freely;
- c) Boxes for groups of smaller animals.

For air transport two types of boxes of much lighter construction were used:

- a) narrow boxes for a single animal where it could not turn;
- b) boxes of the container type for groups of animals the sizes of which had to correspond to the dimensions specified for the cargo aircraft used.

Difficulties are faced in the first transport stage from the bush to the nearest road or railway and then further on to the airport or seaport. We always transported the animals by trucks; and all trucks had to keep together. The drivers were properly prepared as to speed, braking, starting, and accelerating. One of our experts would drive at the head of the convoy. After one hour there was an obligatory stop, and a general inspection of animals took place. The next stops followed in two hours intervals.

Air transport was arranged by LUFTHANSA airlines in a BOEING 707 cargo jet. Two airplanes were used for the journey WINDHOEK - NAIROBI - PRAGUE. One of them flew non-stop from NAIROBI to PRAGUE. The boxes were covered up one third of their height with plastic sheets to prevent soiling of the aircraft. After landing at PRAGUE the boxes were taken on lorries under veterinary supervision, thoroughly covered by plastic sheets and crates and transported directly to the quarantine station in our ZOO.

Several transports by ship were organised from KOMBASSA to HAMBURG mainly for large herds. In HAMBURG all animals were reloaded on barges and transported upstream the ELBE as far as KOLIN and from there on by lorries directly to the quarantine station in our Zoo, again under strict veterinary supervision.

We accompanied personally both the air and ship transports and looked after the animals with great care all the time. The daily time table to which the animals had got used during their stay in our camp was strictly adhered to even during the time of transport. The animals were used to our presence already from the camp, they knew our odours and recognised our voices. While looking after them, we used simple sound signals and worked with great care without any noise and sudden quick movements.

Brief conclusions

Very strict and careful choice of animals in several stages is of utmost importance, although very difficult from the technical point of view. It is absolutely necessary to tame the animals and to make them used to our European diet and to our personal care that they are given during the whole campaign and transport. This meant that, practically, we were in close contact with the animals from the first day after their capture till the last day of their stay in the quarantine station in our Zoo. Very important is also close cooperation with the Game Departments and State Veterinary Offices of all capture countries in Africa. We always had a specialised veterinarian on our expedition staff. In the course of all our capturing campaigns we caught 377 animals. Five of them died during capturing operations, ten during transport from the bush to the camp, and 16 in the camp enclosures. Five of these 16 were killed by lions that penetrated the camp at night. Thirty-four animals were set free, as they proved to be unsuitable for our purposes. Thirty-five animals were left to our capturing partners for other purposes in Africa. Five animals died on transport from the camp to airport or seaport.

Altogether, we loaded 536 animals, including animals that were bought by us. Out of this number, 251 animals were transported by ship and 270 by air. Eleven animals were lost on ship transport, i. e. 2.05 per cent, and four on air transport, i. e. 0.75 per cent. Total losses during transport account for 2.80 per cent.

APRORDEID 3. STADIA di-afre esaeleptostella rosenblidi	10/71	0/1	2/2	-	4/10	-	-	1/1	11/56	11/56	1/1	-	-	1/1	10/55
ARTICULATED OBLATE di-afre esaeleptostella rosenblidi	7/23	-	0/1	-	1/2	-	-	-	6/20	6/20	0/1	-	-	0/1	6/23
CAMP BRIVYALLO Sperera esaefer	1/9	-	0/1	-	-	-	-	-	1/8	1/8	-	-	-	-	1/8
ISLAND ARTILOID Tauronque otry palisoreolam	5/22	-	0/1	0/2	1/2	1/1	-	1/1	1/5	1/6	-	-	-	-	1/6
LEADER EDDI Tropelaphus lamertis australis	4/75	0/1	-	0/1	1/1	-	-	-	1/12	-	-	1/13	0/1	0/1	1/12
NOVA ARTILOID Eipostreque equine lamgoidi	2/17	-	-	0/2	1/3	-	0/1	0/1	1/11	1/11	0/1	-	-	0/1	1/10
PARANOC Ebona allipitrymna	4/70	-	-	-	1/0	1/5	0/1	2/2	2/2	-	-	2/3	-	-	2/3
ROPER 5. ARTILOID Pencilaceae hameri	6/12	-	1/0	0/2	-	1/5	-	2/5	-	-	-	2/5	-	-	2/5
ROPER 100A Ebona greyi	12/21	-	-	2/1	0/2	1/2	-	9/16	9/16	0/1	-	-	-	0/1	9/15
ROPER 25 100A Ebona spagne fr. bravais	8/20	1/1	-	0/1	2/2	1/1	1/1	1/15	1/15	0/1	0/10	0/1	0/2	0/2	1/23
BLAKE BRONCOID Bianea blawata khawali	5/9	-	-	0/1	-	1/2	-	4/6	1/5	-	1/1	-	-	-	4/6
ARTILOID EXTRACT Lomocoma africana	2/14	-	-	1/1	-	1/9	-	0/4	-	-	0/4	-	-	-	0/4
GERYDA Aedonqz jankava jankava	1/1	-	-	-	-	-	-	1/1	1/1	-	-	-	-	-	1/1
MALE GERYDA Distribo caeula manauca	7/7	0/1	1/0	1/1	-	-	-	5/5	5/5	0/2	-	-	0/2	5/3	
Total No. according to males and females	04/293	1/4	4/6	4/12	11/23	9/26	2/3	53/219	45/181	1/7	0/26	0/2	1/9	51/211	
Total No. of animals	377	5	10	16	34	35	5	272	228	8	44	2	10	262	
Totalization of animals caught and transported in 2	1006	1,338	2,655	4,842	9,025	9,288	1,313	72,155	60,485	2,125	11,671	0,538	2,455	69,508	

Notes see on page 2

Notes (Table A):

- 1/ Species
- 2/ Total number of animals caught
- 3/ Killed during catching operations
- 4/ Losses of caught animals during transport from the bush into the camp
- 5/ Animals lost in the camp enclosures
- 6/ Animals unsuitable for breeding set free back into the bush
- 7/ Left behind in Africa
- 8/ Animals lost during transport from the camp to the airport or to the seaport.
- 9/ Total number of animals loaded
- 10/ Transported by ship
- 11/ Lost during the ship transport
- 12/ Transported by air
- 13/ Lost during the air transport
- 14/ Total losses during transport from Africa to Osaoh-slovakia
- 15/ Total number of animals placed into Quarantine Station in the ZOO Dvůr Králové n.L.

Table B

ANIMALS BROUGHT FROM PROFESSIONAL HUNTERS

Species	loaded	by ship	losses /ship/	by air	losses /air/	Total losses	unloaded
MASAI GIRAFFE <i>Giraffa camelopardalis tipolskirczai</i>	7/11	7/11	2/1	-	-	2/1	5/10
ELAND ANTELOPE <i>Taurotragus oryx pattersonianus</i>	0/7	0/7	-	-	-	-	0/7
GREATER KUDU <i>Tragelaphus strepsiceros</i>	1/4	-	-	1/4	-	-	1/4
WHITE-BEARDED GNU <i>Connochaetes taurinus albojubatus</i>	1/3	-	-	-	-	-	1/3
WHITE-TAILED GNU <i>Connochaetes gnou</i>	3/6	-	-	3/6	-	-	3/6
RED HARTBEEST <i>Alcelaphus caama nilborni</i>	3/20	-	-	3/20	-	-	3/20
RESBOK <i>Damaliscus dorcas phillypei</i>	3/17	-	-	3/17	-	-	3/17
WHITE SPRINGBUCK <i>Antidorcas marsupialis var.</i>	2/9	-	-	2/9	-	-	2/9
BLACK SPRINGBUCK <i>Antidorcas marsupialis var.</i>	1/13	-	-	1/13	-	-	1/13
GENGBOK <i>Oryx gazella gazella</i>	3/13	-	-	3/13	-	-	3/13
MOUNTAIN REEDBUCK <i>Redunca fulvorufula</i>	1/4	-	-	1/4	-	-	1/4
VAAL REEBOK <i>Pelea capreolus</i>	3/6	-	-	3/6	0/1	0/1	3/5
DAMARA ZEBRA <i>Equus quagga antiquorum</i>	1/0	-	-	1/0	-	-	1/0
HARTMANN'S MOUNTAIN ZEBRA <i>Equus zebra hartmannae</i>	2/8	-	-	2/8	-	-	2/8
CHIMPANZEE <i>Pan troglodytes troglodytes</i>	3/5	-	-	3/5	-	-	3/5
SOUTHERN MANDRILL <i>Mandrillus sphinx madrogaster</i>	1/4	-	-	1/4	-	-	1/4
ANUBIS BABOON <i>Papio anubis</i>	2/4	-	-	2/4	-	-	2/4
BLACK/AND/WHITE COLOBUS <i>Colobus guereza</i>	1/2	-	-	1/2	-	-	1/2
CHETAE <i>Acinonyx jubatus jubatus</i>	7/5	-	-	7/5	-	-	7/5
MASAI OSTRICH <i>Struthio camelus massaicus</i>	3/6	1/4	-	2/2	-	-	3/6
CROWNED CRANE <i>Balearia regulorum</i>	67	-	-	67	1	1	67

Table B / continued from page 1 /

Species	loaded	by ship	losses /ship/	by air	losses /air/	Total losses	unloaded
Total No. of animals according to males and females	50/147	9/25	2/1	41/122	0/1	2/2	48/145
5) unknown sex	67			67	1	1	66
Total No. of animals transported	264	34	3	230	2	5	259
EVALUATION IN %	100%	12,88%	1,1%	87,12%	0,76%	1,89%	98,11%

NOTE: 5/9 i.e. 5 males and 9 females

Table C

SUMMARY OF DATA FROM TABLE A AND B

	loaded	by ship	losses /ship/	by air	losses /air/	total losses	unloaded
Table A	272	228	8	44	2	10	262
Table B	264	34	3	230	2	5	259
Total No. of animals imported	536	262	11	274	4	15	521
Evaluation in %	100%	48,88%	2,0%	51,12%	0,75%	2,80%	97,20%

Summary:

Choice, capture, and transport of wild animals are reported with reference to comprehensive field experience. Loaded were 536 animals, including 251 for ship and 270 for air transport. Total transport loss accounted for 2.8 per cent. Data on captured and transported species as well as on losses are given in tables.

Zusammenfassung:

Es wird über den Fang, die Auswahl und den Transport von Wildtieren anhand eines umfangreichen Materials berichtet. Insgesamt wurden 536 Tiere verladen, von denen 251 mit dem Schiff und 270 mit dem Flugzeug transportiert wurden. Die Gesamtverluste auf den Transporten betragen 2,8 %. Angaben über die gefangenen und transportierten Tierarten sowie über die Verluste sind in den Tabellen zusammengefaßt.

Résumé:

Basée sur un grand nombre de cas, la présente étude traite de la capture, du choix et du transport des animaux sauvages. En tout 536 animaux ont été transportés dont 251 par bateau et 270 par avion. Les pertes totales étaient de 2,8 %. Des tableaux donnent des indications sur les animaux capturés et transportés ainsi que sur les pertes.

Резюме:

на основе широкого материала сообщается о методах отлова, выборе и транспорте диких животных. Всего перевезено 536 зверей, 251 пароходом и 270 самолетом. Общие потери при транспорте равны 2,8%. данные о пойманных и перевезенных животных, а также потери обобщены в таблицу.

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