DOCUMENTATION
ABOUT THE ELEPHANTS IN AMBER FORT, JAIPUR, INDIA 2016

ELEPHANT BEHAVIOUR CONSULTING

NO ELEPHANTS IN CHAINS

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Documentation about the elephants in Amber Fort, Jaipur, India 2016.

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Marburg, April 2016.

On behalf of:

„Schweizer Hilfswerk – Elefanten in Not“ – *Elephants in Need*
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Contents:

1. Preliminary remarks:

Elephants are wild animals. Although they have been kept in captivity for over 4000 years in south-east Asia, they were never bred, but always captured from the wild, and therefore, never became domesticated (z.B. KURT 1989; BENECKE 1994; SAMBRAUS 2001; GEISER 2006). The Keeping of elephants places the highest requirements to management – like nutrition, hygiene, area and structure of the enclosure, enrichment and social environment – and requires special knowledge about the way of life and requirements of wild elephants. As the needs of both elephant-species are largely the same, the following text includes knowledge from both species.

1.1. Occurrence and distribution of Asian Elephants

In the wild Asian Elephants (*Elephas maximus*) currently live in 13 countries in south- and south-east Asia. The distribution area ranges from India in the west, to Indonesia in the east. Elephants live in forests, but also in transit-zones between forests and grasslands. There is no population of wild Asian elephants in the Indian state Rajasthan, because the vegetation is too poor and the climate too hot and dry (SHOSHANI 1992; KURT 2008).

1.2. Social Behaviour of Elephants

Elephants are among the most intelligent animals with cognitive abilities, and they are highly social animals with a complex social structure (BATES et al. 2008; BYRNE & BATES 2007; WITTEMYER et al. 2005). The social-structure of wild elephants is called a "fission-fusion society" (MOSS & LEE 2011). The centre of this society is the mother-child-unit into which each calf is born. The females of this unit form so called matri-lines family-groups which consist of female kinship, which can fuse (fusion) to herds or split (fission) into families. Female elephants remain within their mother-family their entire lives. They are among the most social animals that we know, and their distinct social behaviour is essential for them (DOUGLAS-HAMILTON 1972; MOSS 1977; MOSS & POOLE 1983; MOSS 1988; SUKUMAR 1994; WITTEMYER et al. 2005).

The most closely related family members exhibit a variety of positive social interactions. These interactions express and strengthen the life-long bonds.

The "fission-fusion"-strategy allows elephants to respond flexibly to social and environmental factors. Female elephants show cooperation and affection not only to related elephants, but sometimes also to unrelated elephants (ARCHIE et al. 2011). Therefore the complex social structure of elephants is not limited to family groups, but extends to subpopulations or further (MOSS et al. 2011).

Young males live in the family clans until they become sexually mature. They start to leave the herds at an age of approx. ten to fifteen years (McKAY 1973; SUKUMAR 1989; SUKUMAR 2003). Male elephants leave the mother-herds to prevent inbreeding, but they need the society of other bulls and often form so-called bachelor groups (McKAY 1973; GARAI & KURT 2006). But even adult bulls associate with other bulls in so called „best friends“-groups. Whereby these are loose associations have been documented to consist of up to a dozen or more individuals. (O´CONNELL-RODWELL 2010; MOSS et al. 2011; DORNBUSCH 2015).

During the breeding-period the bull leaves the male-society in search of female-clans with oestrous cows. The bulls sometimes have to walk very long distances between female-clans (MOSS et al. 2011). Wild elephant-bulls are therefore also very social animals (GARAI & KURT 2006).

Note: Sometimes it is possible to integrate a female elephant with another female elephant or elephant-group, even if the one elephant was kept solitary (alone) most of its life (DORNBUSCH 2016a).

1.3. Breeding Behaviour

Like all other wild living animal-species, elephants are able to survive and to reproduce successfully in the wild (GEISER 2006). Male elephants come into the so called „Musth-period“ upon acquiring sexual maturity. This sexual cycle stabilises with increasing age (LINCOLN & RATNASOORIYA 1996). Some scientists postulate that the “Musth-period” is similar to the rutting season of deers (PIELER 2001), however male elephants are also able to breed outside of the “Musth-period”. The adult bulls preferably search oestrous cows for mating during their “musth period”. Pregnancy lasts between 19 and 22 month (MOSS & COLBECK 1992). The average time between births (inter-calving interval) amounts to around 4,5 years (MOSS 2001).

1.4. Nutrition and Need for Movement

As largest land-mammals elephants require a great amount of food daily. An elephant spends about three-quarters of its life searching for and consuming food, and walking to the various feeding- and water places (SHOSHANI 1992). They are not very picky and eat a wide variety of plant foods, especially grasses, roots, leaves, fruits, bark, entire branches, etc. (MOSS & COLBECK 1992). The elephant’s intake is about 1,5 – 1,9 % of their body mass, because they are poor food-users. Only about 22 % to 44 % of the food is digested (McKAY 1973; LAWS et al. 1975; SUKUMAR 1994; LÖHLEIN 1999; KURT 2001). In the wild searching and preparing of food is an additional activity to food intake. Elephants have to walk 7 to 35 km daily – male elephants even up to 120 km - to obtain these amounts of food and sufficient water. The home range of a female family-clan varies within different habitat types, for example it is around 50 km² in the Amboseli National Park in Kenya (MOSS & COLBECK 1992).

For Asian elephants the duration of food intake was determined to be between 9 – 19 hours per day (KURT 1992) or 12 – 18 hours (SUKUMAR 1989). However, this varies depending on habitat and season (McKAY 1973; SUKUMAR 1989).

1.5. Sleeping Behaviour

In the wild elephants (mostly) sleep during the night, as well as during the day (African: MOSS & COLBECK 1992; GUY 1976; WYATT & ELTRINGHAM 1974; HENDRICHS & HENDRICHS 1971; Asian: McKAY 1973). All authors agree that elephants nap during the day in the shade (in standing position in the hot hours), and lie down during the night for deep sleep for around 2 to 4 hours depending on their age. Observations on relocated elephants in South Africa showed that the elephants also lie down to sleep during the day if they feel safe (GARAÏ 1997).

KURT et al. (2001) observed altogether 51 Asian elephants during four nights at the Pinnawela Elephant Orphanage in Sri Lanka. The average duration of single episodes of lying down of all elephants (of different age) amounted between 25.4 min and 108.5 min, whereby the elephants lay down between an average of 1.0 times to 8.5 times per night. All elephants sleep lying down, most of them as often on the left side as the right side. Young animals sleep longer than adults. All adult females slept lying down between 187.4 and 212.8 min (KURT & GARAÏ 2007).

The general belief that sleeping lying down is a deeper sleep than sleeping standing (TOBLER 1992) has as yet not been confirmed, but observations between same age zoo- and circus elephants in Europe show that circus elephants who do physically more demanding work than Zoo elephants, more often sleep lying down (KURT 1960; TOBLER 1992).

TOBLER (1992) observed Asian elephants in Zürich Zoo and at the Swiss Circus Knie during altogether 294 nights. The seven circus elephants slept between 22h00 and 02h00 lying down. The total time of sleeping lying down amounted between 169.4 and 360.1 min, with the last

amount being for an elephant-calf. The adult females slept lying down between 169.4 and 224.7 min.

1.6. Physical Ability

Elephants are „weak giants"– in relation to their size and body-weight.
The larger and heavier an elephant becomes, the more immobile he becomes. With increasing body-weight and size the frequency of steps reduces, but the step size increases. During the normal walk there are almost always three feet on the ground. It is not possible for elephants to trot or gallop and they cannot jump (KURT 2008).
A new born elephant calf is around 100 cm high and weighs around 100 kg. An adult female elephant is around 250 cm, high, but weighs around 3 – 4 tons. While the shoulder height increases around 2.5-times, the body-weight increases by a minimum of 30-times (KURT 2008).
Whilst young elephants are still able to show a variety of body movements, these pose excessive demands on the limbs and joints of an adult elephants (KURT 2008).

1.7. Stereotypy

Stereotypic behaviour is not part of the normal behaviour of wild elephants. Stereotypies are uniform, repetitive, invariable motor movements without goal or function.
A stereotypy is an abnormal behaviour that is negative and not desirable. It is viewed as sign of low welfare conditions (ODBERG 1978; KILEY-WORTHINGTON 1990; MASON 1991) and is a typical phenomenon of captive elephants in small or not adequately furnished enclosures, too little occupation, as well as social impoverishment. Therefore it is a sign of bad keeping conditions (e.g. MASON 1991; MARRINER & DRICKAMER 1994). In contrast a great amount and variety of normal behaviour (like wild elephants) without stereotypy is a sign of well-being.
Elephants in captivity often show stereotypic behaviours. Several variants were observed, e.g. typical stereotypic constant walking back and forth, or rhythmic "weaving" of the head from side to side or bobbing up and down, which sometimes includes lifting of one or both (alternately) front legs (z.B. KURT & HARTL 1995; GRUBER et al. 2000; KURT & GARAÏ 2001; KURT & GARAÏ 2002; DORNBUSCH 2016b).
Stereotypy is not an innate behaviour, but it develops under certain conditions of captivity. Stereotypy has been documented for wild born captured elephants and for elephants born in captivity (e.g. KURT & GARAÏ 2001; DORNBUSCH 2012).
There are various causes of stereotypies, whereby boredom, social isolation and missing social partner, as well as unfulfilled motivation are among the strongest triggers of stereotypic behaviour in elephants (e.g. DANTZER 1986; KURT & GARAÏ 2001). The stereotypic behaviour is differently manifested from individual to individual and can partly become irreversible (e.g. SCHMID 2006; DORNBUSCH 2012). However, there is a correlation between the duration of chaining and increasing frequency of stereotypic behaviour (SCHMID 2006), as well as a correlation between better enrichment and lesser stereotypic behaviour (REES 2009).
Stereotypies are unknown in the wild, no free ranging elephant ever stereotypes (KURT & GARAÏ 2001; MOSS et al. 2011).

2. Riding-Elephants in Jaipur, India

Note: Like all working- and riding-elephants in India, the elephants in Jaipur are also kept in the management-system called „free contact“(direct contact / hands on). This means, that the Mahout (elephant-trainer) has dominance over the elephant and the elephant has to do what the Mahout wants. Consequently there is no guarantee that the elephant will accept the dominance of the Mahout throughout its entire life. This means there is a high risk of accidents in this keeping-system and numerous accidents have been documented from India.

2.1. Elephant-rides at Amber Fort

For the elephant-rides the elephants are equipped with riding-benches on their backs. Additionally, they are adorned with garments, blankets and head covers, even in extreme heat. Some elephants are colourfully painted on their body, head, around the eyes and on their toenails (pic. 1).

In April 2016 elephant riding at the Amber Fort Palace was held only between 07h00 to 10h00 in the morning. The reason was apparently the extreme high temperatures at noon.

Up to 120 elephants have to wait together in a courtyard (waiting-area) at the foot of the mountain lined up in order, until their turn to take guests onto their back and walk up the hill. The guests mount the elephants with the help of a ramp, so that the elephants do not have to lie down. Then the elephants have to walk up a steep hill to the palace with the guests on their back. Meanwhile the Mahout sits on the neck of the elephant and leads him with his bull hook (Ankus) in one hand and his feet behind the ears of the elephant, thus guiding the elephant.
At the Amber Fort palace the guest descends from the elephant's back again with the help of a ramp. The elephants have to walk down to the courtyard (waiting-area) with only the mahouts, without guests. Therefore the elephants use the same path as walking uphill.
Note: There is also another path, for (human) pedestrians only. For walking uphill and downhill the elephants need around 25 minutes. Sometimes the elephants walk like a "string of pearls", as there are so many elephants walking up and down (pic. 2).
Following this, the elephant has to take its position in the waiting-area lined up in order until the next ride (pic. 3).
It was not observed that the elephants receive food or water during the waiting-time.
It seems that especially the uphill walk with the guests is difficult and exhausting for the elephants. The surface of the path consists of cobbles and concrete. Walking up and down does not correspond to „free movement“, but is more like a march commanded by the mahout.

Specifically the follow situations were seen during the observation period of the elephants at Amber Fort:
An elephant wanted to break out of his walking-lane, apparently to take some food which a tourist had dropped. Thereupon the elephant was immediately yelled at by his mahout and beaten with the Ankus on the head, but the elephant did not return immediately. Only the beating of a different mahout, who was sitting another elephant, induced the elephant to return back in his walking-track. Note: This was on the way back, with no tourists on the back of the elephant.
Regarding the danger by elephants, further observations were made: At the premises of a private elephant owner one elephant struck out with his trunk towards a stranger who wanted to pass the elephant (Video-clip documentary).
In another case, at another owner's place, the author was warned not to go too close to one of the chained elephants, but was allowed to pat the other elephants. Therefore aggression by the one elephant must be assumed.

2.2. Elephants and road traffic

In order to reach the Amber Fort palace, starting from the elephant stables (night quarters) – and back, the elephants have to be lead through the (chaotic) road traffic in Amber, Jaipur (pic. 4). For this, the mahout sits on the riding-benches or on the neck of the elephant and leads the elephant with the Ankus or with his feet.

2.3. Keeping facilities in the „Elephant Village“

Most of the elephants in Jaipur are kept in the so called „Elephant Village“(this is a typical elephant-camp). The keeping facilities are almost the same for every elephant.
Other elephants are kept at other places in Amber in private houses (similar to backyards and garages). The keeping facilities in private houses will be discussed later on in more detail.

2.3.1. Stables

In the „Elephant Village“ there is an identical house for each elephant and his mahout. Each stable holds one (solitary) elephant. The stables are built like a big box with an area of approx. 50 m². The stables (box) have stone walls with a large opening (which serves as door) in the front, a window (without glass) in the back and a small door (exit for the mahout) on one side. (pic. 5). Elevated about half a meter above the stone wall there is a tin roof. The opening between the wall and tin roof allows for circulation of air.
The floors were made of different materials: Most floors were made out of concrete and sloping. Others were made of concrete, but were level. There were also few rubber floors (1) and some with sand (2) (the sand was a layer on the concrete floor), which was sloped.
The elephants are kept chained in the open stables (no doors). Various techniques were used here as well, whereby most elephants were chained with chains on both front legs and one hind leg, others were chained with ropes on one foreleg and the opposite hind leg, allowing them to take one step forward and backward. In neither case could any of the elephants turn around in their stable.
Note: It is assumed that the elephants are fixed (chained) in the stables during most of the time (at least the entire night); this means about 12-16 hours a day.

2.3.2. Enclosure, Enrichment and Lake

There is no enclosure for the elephants in the „Elephant Village“, where the elephants can be in a group and where “free movement” is possible.
Also there is no Enrichment (Environmental Enrichment and/or Behavioural Enrichment) worth mentioning, excepting the lake (see below).
The elephant-camp, „Elephant Village“, includes a large lake, into which the elephants can be led by their mahouts. Here the elephants have the possibility of taking a bath and being scrubbed by their mahouts, whereby they just lie down on their side and show very passive behaviour (keep still), while the mahouts scrub them with stones (pic. 7 and 8).

2.3.3. Health status of the elephants in the „Elephant Village“

The author is a biologist and not a veterinarian. Despite this he has wide experience on how to evaluate the health status of elephants.
The author was able to assess and check the health status of six of the elephants in detail:

Altogether the elephants in the „Elephant Village“ showed a health status typical for riding-elephants. All in all the condition of the skin was comparatively good (very little skin protuberances (keratosis) old skin; very little encrustations). However, most elephants had typical pressure points (bed sores), abscesses and wounds (some scars) at specific points of the body, especially above the tail, on the shoulders and on the forehead. These pressure

points etc. were definitely caused by chafing from the riding-benches and use of the Ankus (pic. 10). Other pressure points on the shoulders, elbows and hips are a result of lying down (laterally) on hard ground (like concrete).
All examined elephants showed foot-problems / foot-diseases. In addition to untrimmed and cracked toenails and untended soles some elephants showed too much abrasion (wear) of the foot-sole, especially at the heel. Sometimes almost the entire sole was gone (pic. 11 and 12). This is most likely due to two reasons: The long standing (fixed) on concrete floors (stables), and the constant up- and downhill walking on hard ground (Amber Fort).
Specifically following findings were observed at the "Elephant Village": One female elephant had a blind eye and an inflammation of the temporal gland (pic. 9). Another female elephant showed signs of pains in her legs. Additional signs of pain were the open mouth and the biting of the trunk.

2.4. Keeping facilities at the private houses

As already mentioned, elephants are also kept at private houses (similar to backyards and garages). These keeping facilities are discussed in the following:

2.4.1. Stables

The author visited four different facilities for elephants at private houses. In contrast to the stables in the „Elephant Village", the buildings at the private houses were not originally built for keeping of elephants, but were now used for it.
At most of the private houses several elephants (excepting for one case) were kept in a stable-complex (not solitary) fixed (chained) side by side. Some of the elephants were chained by two front legs and one hind leg; other elephants were fixed with strong straps on one front leg and the opposite hind leg. The elephants could not turn (pic. 6). The area in the stable available was approximately 40 - 50 m² per elephant.
Thus the elephants had the opportunity of social contact to their neighbour. One elephant was kept solitary away from the others. Two young elephants were kept each in a cage of app. 50 m². One of the young elephants was chained in this cage-box, the other elephant (younger) was not (during the presence of the author). Excepting the two cages for the younger elephants which had sand, all other stables had concrete flooring. Some were slanting and some were level.
Note: It is assumed that the elephants are fixed (chained) in the stables during most of the time (at least the entire night), this means about 12-16 hours a day.

2.4.2. Enclosure, Enrichment and Lake

The elephants at the private houses also had no enclosure where they could be in a group with the possibility of "free movement". Likewise, there is no Enrichment available (Environmental Enrichment and/or Behavioural Enrichment).
In contrast to the "Elephant Village" there is no lake near to the private houses with the elephants. But allegedly the mahout is allowed to take his elephant to the lake in the "Elephant Village" for a bath.

2.4.3. Health status of the elephants at the private houses:

The author was able to assess and check the health status of four of the elephants in detail:

Altogether, the elephants kept at the private houses in Jaipur show a typical riding –elephant health status. Striking however, is that the condition of the skin was significantly worse than the skin condition of the elephants in the elephant-camp: Several elephants had keratosis (old skin) and encrustations. This is a clear sign of poor skin-care and a lack of bathing opportunity (including no possibility for self-care).

Most of the elephants at the private houses also had typical pressure points (bed sores), abscesses and wounds (some scars) o specific points of the body, especially above the tail, on the shoulders and on the forehead. These pressure points etc. were definitely caused by chafing from the riding-benches, and use of the Ankus. Other pressure points on the shoulders, elbows and hips are a result of lying down (laterally) on hard ground (like concrete).

All inspected elephants showed foot-problems / foot-diseases. In addition to untrimmed and cracked toenails and untended soles some elephants showed too much abrasion (wear) of the foot-sole, especially at the heel. Sometimes almost the entire sole was gone. This is most likely due to two reasons: The long standing (fixed) on concrete floors (stables), and the constant up- and downhill walking on hard ground (Amber Fort).
Specifically follow findings were observed during the investigations of the elephants at the private houses:
There were burn marks on the foot (nail, sole) of one female elephant, which is a sign of the "traditional Asian medicine". Another female elephant was painted with colours, possibly to hide an abscess on the hip and the shoulder.

2.5. Care measures:
The care status of the elephants differed from elephant to elephant. Some elephants had signs of foot-care, other elephants had very bad untended feet. One female elephant was not able to lie down for foot-care, therefore the foot-care was ignored.
Altogether it was found that the skin condition of the elephants into the „Elephant Village" was much better than the skin condition of those at the private houses.
Some mahouts said that they use „traditional Asian medicine", including the use of animal-bones and animal-blood, and even the use of smoke and fire. Some of these methods are painful and scientifically questionable or clearly ineffective.

2.6. Nutrition:
The elephants were fed mainly or only with sugarcane. Fresh grass or other food items (e.g. fruit) was present only in very small amounts. Feeding of branches could not be observed. Altogether this diet is very unbalanced and is not appropriate for elephants. It is not suited to the requirements of such heavily working elephants.

2.7. Stereotypies
Many of the elephants showed stereotypic behaviours like "weaving", rocking from side to side or bobbing the head up and down. Especially during the periods when the elephants were fixed (chained) in the stables they showed much stereotypic behaviour: Some elephants only "weaved" with the head, others additionally lifted a front leg off the ground (pic. 13). But the elephants showed stereotypic behaviours also during the time they stood in the waiting area at the Amber Fort. Some even stereotyped (e.g. weaving of the head and trunk) during the walk up to the Amber Fort palace.

3. Evaluation and Conclusion
As already mentioned the „Free Contact" ("Hands on") keeping-system holds a great risk . Accidents are to be expected, as the basis of this keeping-system is the dominance of the mahout over the elephant. Therefore the author is certain that accidents will happen sooner or later with the riding-elephants at Amber Fort in the future.

The author favours a keeping-system without human dominance, but with sufficient safety measures, (e.g. like “Protected Contact”, “No Contact” / “Hands off”). However, elephants which are used for riding cannot of course be kept in a secure Hands–off management.

Irrespective of whether one supports riding with elephants or not, the solution to use the elephants for the rides in April (and May) between 07h00 and 10h00 in the morning only, is reasonable - because of the extreme high temperatures at noon.
Also the solution that the guests climb onto the elephants using a ramp is reasonable. This prevents the elephant from having to lie down.
Although up to 120 elephants are lined up in the waiting area daily, social contacts between the elephants are very rare. This disciplined formation does not lend itself to social contact, as they are not allowed to leave their spot.
The up- and downhill walk from the waiting-area to the Amber Fort palace, and also the way from Amber Fort to the stables (night quarters) – around 2.5 km – provides the elephants with some physical exercise. However, these walks are more like a march than providing „free movement“. Also it does not satisfy the other needs, like social-behaviour, etc. Just moving (marching under control) is not enough Enrichment.
And despite the elephants walking like a “string of pearls”, head to tail, there is almost no social-behaviour between them.
The heavy riding benches which the elephants have to carry on their backs cause pressure points (sores), abscesses and wounds by chafing the skin. This must be considered negative.
The elephants should receive water for drinking regularly in the waiting-area at the Amber Fort. An adequate supply of water is essential, especially in the heat.
Note: End of April 2016, a riding-elephant at Angkor Wat, Cambodia died from heat stroke.

The biggest deficit in the the "Elephant Village" is that there is no safe fenced enclosure where the elephants can "move freely". Instead, the elephants have to spend much too much time in the stables, where they are fixed (chained) most of the time. Fixation (chaining) of elephants should be rejected from a welfare perspective. A further negative aspect is that the elephants are kept solitary and isolated in their stables. Therefore there is no social contact between elephants, not even sight contact.
The only possibility for social contacts, (limited), “free moving”, and body care is at the lake. However, as the elephants have to lie down in the water and be passive while the mahouts wash them, there is no possibility for “free movement”, self-care (bath by themselves), or any social behaviour with other elephants. It would be highly desirable to give the elephants more time for self-care and self-initiated behaviours.

The keeping of elephants at the private houses must also be criticized. Especially the fact that there is no enclosure for the elephants and not even a lake like at the “Elephant Village” must be considered negative.
The only advantage over the elephant-camp is that the elephants are fixed (chained) side by side and thus see some of the other elephants and can possibly socialise with their immediate neighbours. Basically this is also a very negative aspect, but at least there is a chance of social contact. However, one must remember that the elephants don’t have the chance to choose their nearest neighbour, this could be stressful for them. But the opportunity for social contact (even thus restricted) is better than being kept alone (solitary).
A further criticism and very negative point at the private houses is that the elephants are fixed (chained) for most of the time. From a welfare point fixation (chaining) of elephants should be rejected, especially the rigid fixation of both front-legs.
These elephants should be given the opportunity to take a bath in the lake at the „Elephant Village“.

It must further be considered as negative that most stables for the elephants had a hard or concrete ground. Additionally, some of the floors were sloped, which is harmful for the feet. In principle elephants should not be kept on concrete or stone floors as this is detrimental to their feet and joints, as is well known from zoos and circuses. It is therefore recommended to keep elephants on sandy soil. However, other factors have to be considered: the elephants need much more Environmental Enrichment (Behavioural Enrichment), as they tend to eat the sand if they become bored. This can cause colic.

The biggest problem with the health status of the elephants in Jaipur is the generally bad conditions of their feet. Especially severe abrasion (wear) of the foot-sole (at the heel) was seen on many elephants. Sometimes almost the entire sole was gone. This is caused by a regular over-loading and uneven load and the daily uphill walk on hard ground to the Amber Fort (incl. the extra weight of the riding-benches and guests), as well as standing (incl. stereotypic weaving) on concrete or hard ground in the stables.

Although the sloped floor in the stables may help the elephants to stand up more easily, more important are the negative effects, especially on the feet, such as unequal growth of the toenails and deformation of the feet.
As elephants sleep mostly lying down on their side the hard concrete floor of most stables causes pressure points (sores) and abscesses on the shoulders, the elbows, knees and hips.

It is essential that the elephants are cared for and treated by knowledgeable and experienced veterinarians. The “traditional Asian medicine” is criticized by the author, and modern science (zoology and veterinary) is in agreement that it is ineffective. Some methods, such as burning of wounds, are even to be considered as animal cruelty.

It is recommended to build a Training-Wall for foot-care and medical treatment of the elephants. The positive effect will be that the elephants do not have to lie down during the treatment and care, but they can stand comfortably.

The elephants´ diet does not seem balanced, but far too one-sided. This is not a species specific or situation specific elephant diet. Particular attention must be paid to sufficient feeding of branches. This is very important for the digestion, provides variety and is also an interesting Enrichment for the elephants.

Many of the elephants showed stereotypic behaviours, such as „weaving“- swaying from side to side, or bobbing with the head up and down. Some elephants even lifted their front foot off the ground during stereotyping. This is a definite sign of bad keeping conditions and an indication of mental suffering.

Altogether the keeping and management of elephants in Jaipur must be classified as animal cruelty.
The responsible persons should seriously consider how to change the the concept of keeping elephants, and steer away from the elephant-rides towards establishing an elephant sanctuary where visitors can observe the elephants in their natural environment (as far as possible) and with normal behaviours. Otherwise they should seriously consider placing the elephants in an existing sanctuary.

Pic. 1: Decorated and painted riding-elephant on the uphill walk at Amber Fort, Jaipur.

Pic. 2: The elephants walk uphill like a "pearl necklace", lined up one after another.

Pic. 3: The elephants have to wait side by side, lined up in order. It was not oserved that the elephants had an place in the shade, or water to drink.

Pic. 4: The elephants have pass and to lead through the (chaotic) road traffic in Amber, Jaipur, to reach the stables.

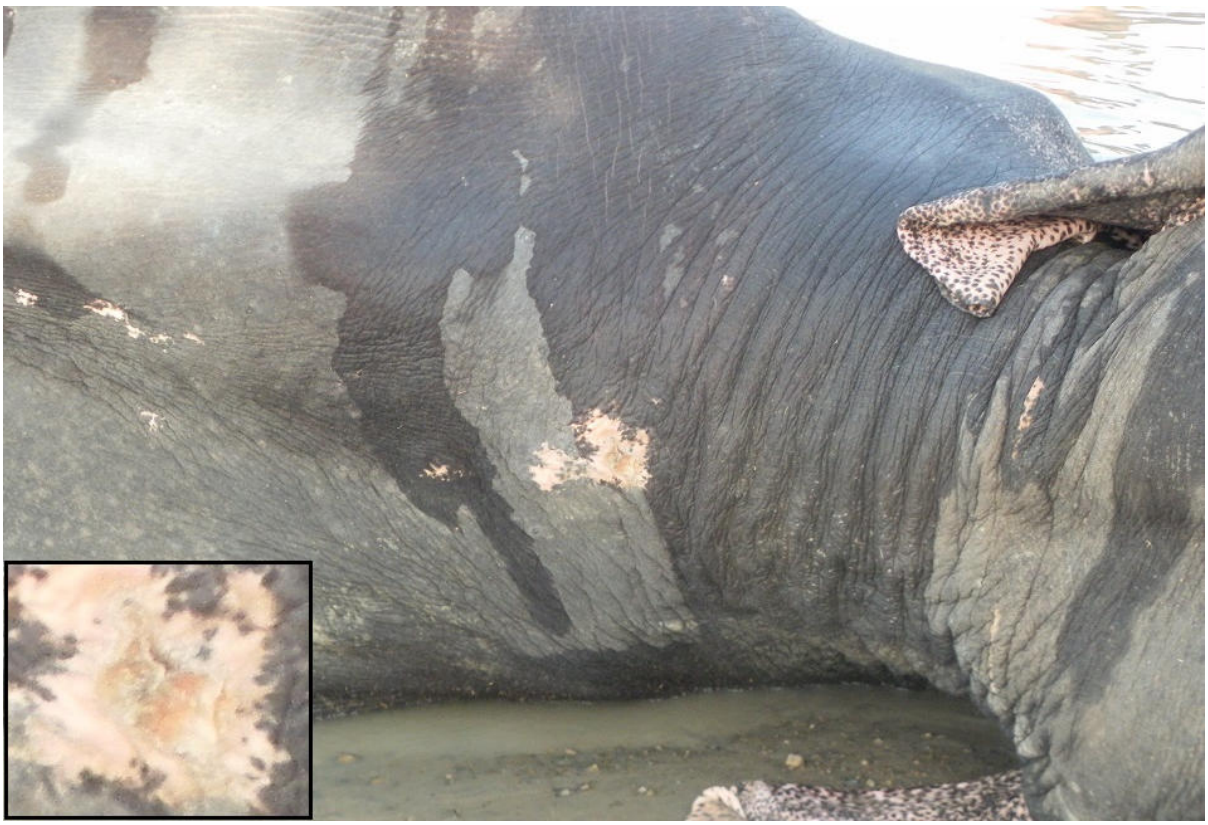
Pic. 5: An elephant in his stables into the „Elephant Village“. The front legs are chained, and also the right hind leg. The concret-ground is bevelled.

Pic. 6: Two chained elephants at a pivate house. These elephants are chained by one front and one opposite hind leg. The concret-ground is flat.

Pic. 7: This is the Lake in the „Elephant Village“, where the elephants can bath.

Pic. 8: The elephants have to lie down while the mahouts brush their body with stones.

Pic. 9: This female elephant has an blind left eye and an inflamed temporal gland.



Pic. 10: This elephant have an presure point (wound) on its back, caused by the chafing of the riding-benches. The small pic showes an enlarged view of the wound.

Pic. 11: Many elephants have foot-problems. Too long and cracked toenails and untended soles.

Pic. 12: The heel of this elephant-food shows the abrasion (wear) of the foot-sole.

Pic. 13: This elephant shows stereotypic behaviour: “Weaving” with the head from side to side. The animal was kept at a private house and was chained by one front leg and one hind leg. The female elephant showed aggression to strangers.

4. References

ARCHIE E.A., MOSS C.J. & S.C. ALBERTS. 2011. Friends and Relations: Kinship and the Nature of Female Elephant Social Relationships. In: MOSS C., CROZE H. & P. LEE (Hrsg): The Amboseli Elephants. A long-term Perspective on a long-lived mammal.

BATES L.A., POOLE J.H. & R.W. BYRNE. 2008. Elephant Congnition. *Current Biology* 18 No 13, 544-546.

BENECKE N. 1994. Der Mensch und seine Haustiere. Verlag Theiss, Stuttgart.

BYRNE R. W. & L.A. BATES. 2007. Sociality, evolution and Cognition. *Current Biology* 17, 714-723.

DANTZER R. 1986. Behavioural, physiological and functional aspects of stereotyped behaviour: a review and a re-interpretation. *J. Anim. Sci*. 62, 1776-1786.

DORNBUSCH T. 2012. Gedanken eines Biologen zur „artgerechten Haltung“, 2. Teil: Stereotypien. Elefanten in Zoo und Circus. Das Elefanten-Magazin 22, 36 – 37.

DORNBUSCH T. 2015. Die „Tsavo 14“: Eine Bullengruppe in Kenia. Elefanten in Zoo und Circus. Das Elefanten-Magazin 26, 48 – 49.

DORNBUSCH T. 2016a. Integration von zuvor einzeln gehaltenen Elefanten. Elefanten in Zoo und Circus. Das Elefanten-Magazin 28, 72 – 76.

DORNBUSCH T. 2016b. Untersuchungen zu Stereotypien bei Elefanten. Elefanten in Zoo und Circus. Das Elefanten-Magazin 28, 77 – 79.

DOUGLAS-HAMILTON I. 1972. On the ecology and behaviour of the African elephant. D.Phil.Thesis, Oxford Univ., Oxford.

GARAÏ M.E. 1997. The development of social behaviour in translocated juvenile African elephants *Loxodonta africana* (Blumenbach) PhD. Dissertation. University of Pretoria, Pretoria, South Africa.

GARAÏ M.E. & F. KURT. 2006. Sozialisation und das Wohlbefinden der Elefanten. Zeitschrift des Kölner Zoo 2: 85 – 102.

GEISER M. 2006. Vom Wildtier zum Haustier. S. 2- 5. In: BUNDESAMT FÜR VETERINÄRWESEN (Hrsg.): Wildtiere – gehegt, gejagt, gehandelt. BVET-Magazin 6/2006. Bern.

GRUBER T.M., FRIEND T.H., GARDNER J.M., PACKARD J.M., BEAVER B. & D. BUSHONG. 2000. Variation in stereotypic behaviour elated to restrain in circus elephants. Zoo Biology 19, 209 – 221.

GUY P.R. 1976. Diurnal activity patterns of elephant in the Sengwa Area, Rhodesia. *E. Afr. Wildl. J.* 14, 285-295.

HENDRICHS H. & U. HENDRICHS. 1971. Dikdik und Elefanten: Ökologie und Soziologie zweier afrikanischer Huftiere. Piper, München.

KILEY-WORTHINGTON M. 1990. *Animals in circuses and zoos – Chiron's world*? Little Eco-Farms Publishing, Basildon, Essex G.B.

KURT F. 1960. Le sommeil des elephants. *Mammalia* 24, 259-72.

KURT F. 1989. Das Buch der Elefanten. Heyne Sachbuch, München.

KURT F. (Hrsg.). 2001. Elefant in Menschenhand. Filander Verlag, Fürth.

KURT F., GARAÏ M.E., REIMERS M & S. SCHMIDT. 2001. Kapitel 5.5. Schlaf. In: KURT F. (Hrsg.) Elefant in Menschenhand. Filander Verlag, Fürth.

KURT F. 2008. Von Athleten mit beschränkter Leistung und Dresseuren mit schrankenlosem Ehrgeiz. In: Elefanten in Zoo und Circus. Das Elefanten-Magazin. 14, 17 – 19.

KURT F. & M.E. GARAÏ. 2001. Kapitel 5.8. Bewegungsstereotypien. In: KURT F. (Hrsg.) Elefant in Menschenhand. Filander Verlag, Fürth.

KURT F. & M. E. GARAI. 2002. Stereotypies in captive Asian elephants – a symptom of social isolation. S. 57 – 63. In: SCHWAMMER H. M., FOSSE T.J., FOURAKE M. & D. OLSON. (Hrsg.): Research Updates on Elephants and Rhinos. Schüling Verlag, Münster.

KURT F. & M.E. GARAÏ. 2007. *The Asian Elephant in Captivity: A field study*. Cambridge Univ. Press India Pvt. Ltd. Foundation Books. New Delhi.

KURT F. & G. B. HARTL. 1995. Asian elephants (Elephas maximus) in captivity – A challenge fo zoo biological esearch. S. 310 – 326. In: GANSLOßER U., HODGES J.K. & W. KAUMANNS (Hrsg.): Research and captive propagation. Filander Verlag, Fürth.

LAWS R.M., PARKER I.S. & R.C.B. JOHNSTONE. 1975. Elephants and their Habitat: The ecology of Elephants in North Bunyoro, Uganda. Oxford University.

LINCOLN G.A. & W.D. RATNASOORIYA. 1996. Testosterone secretion, Musth behavior and social Dominance in captive male Asian elephants living near the equator. J. Reprod. Fert. 108, 107 – 133.

LÖHLEIN W. 1999. Untersuchungen zur Verdaulichkeit von Futtermitteln beim Asiatischen Elefanten. Schüling Verlag, Münster.

MASON G. J. 1991. Stereotypies: a critical review. *Anim. Behav*. 41, 1015-1037.

MARRINER L.M. & L.C. DRICKAMER. 1994. Factors influencing stereotyped behaviour of Primates in a zoo. *Zoo Biology* 13, 267-275.

McKAY G.M. 1973. Behaviour and ecology of the Asiatic elephant in South-eastern Ceylon. Smithsonian Contributions to Zoology No. 125, 113pp.

MOSS C.J. 1977. The Amboseli elephants. Wildlife News 12, 9-12.
MOSS C.J. & J.H. POOLE. 1983. Relationships and Social Structure of the African Elephants. In: Primate Social Relationships (Ed. R.A. Hinde). Blackwell Scientific Publ.
MOSS C.J. 1988. *Elephant Memories: Thirteen Years in the Life of an Elephant Family*. Elm Tree Books, London.
MOSS C.J. & M. COLBECK. 1992. Echo of the Elephants. BBC Books, London.
MOSS C.J. 2001. The demography of an African elephant (Loxodonta africana) population in Amboseli, Kenya. *Journal of Zoology*, No. 255, 145 – 156.
MOSS C.J. & P.H. LEE. 2011. Female social dynamics: Fidelity and Flexibility. In: MOSS C., CROZE H. & P. LEE (Hrsg.) The Amboseli Elephants. A long-term Perspective on a long-lived mammal. The University of Chicago Press, Chicago.
MOSS C., CROZE H. & P. C. LEE. 2011. The Amboseli Elephants: A Long-Term Perspective on a Long-Lived Mammal. University of Chicago Press, Chicago.
O´CONNELL-RODWELL C. 2010. How male elephants bond. Smithsonian Institute Press.
ODBERG F. O. 1978. Abnormal behaviours: Stereotypies. Proceedings of the First World Congress of Ethology Applied to Zootechnics. Madrid.
PIELER E. 2001. Fortpflanzungsbiologie. S. 131 - 144. In: KURT F. (Hrsg.) Elefant in Menschenhand. Filander Verlag, Fürth.
REES P.A. 2009. Activity Budgets and the Relationship between Feeding and Stereotypic Behaviour in Asian elephants (Elephas maximus) in a Zoo. *Zoo Biology* 28, 79 – 97.
SAMBRAUS H.H. 2001. Farbatlas Nutztierrassen. 6. Auflage. Verlag Ulmer, Stuttgart.
SCHMID, J. 2006. Verhalten Asiatischer Elefanten (Elephas maximus) im Zoo und Zirkus. Indikatoren für deren Befindlichkeit. Schüling Verlag, Münster.
SHOSHANI J. (Hrsg.): 1992. Elephants. Intercontinental Publishing Limited, San Francisco.
SUKUMAR R. 1989. The Asian Elephant. Ecology and Management. Cambridge, University Press.
SUKUMAR R. 1994. *ELEPHANT Days and Nights: 10 years with the Indian elephant*. Oxford Univ. Press, Bombay.
SUKUMAR R. 2003. The living elephants: evolutionarx ecology, behaviour and conservation. New York: Oxford University Press.
TOBLER I. 1992. Behavioural sleep in the Asian elephant in captivity. *Sleep* 15, (1) 1-12.
WITTEMYER G., DOUGLAS-HAMILTON I. & W.M. GETZ. 2005. The sociology of elephants: analysis of the process creating multitiered social structures. *Animal Behaviour*. www.sciencedirect.com
WYATT J.R. & S.K. ELTRINGAHAM. 1974. The daily activity of the elephant in the Rwenzori National Park, Uganda. *East Afr. Wildl. J*. 12, 273-89.