

Stereotypies in Asian Elephants During Processions in Sri Lanka

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Introduction

Stereotypies are repetitive, unvarying behaviours in animals, with no obvious goal or function (Clubb & Mason 2002). These rhythmical behaviours when observed in captive animals are often used as indicators of the lack of welfare (Clubb & Mason 2002). Several species of animals show stereotypies when they are brought up in isolation, but enrichment of the environment can reduce the frequency of stereotypies displayed (Clubb & Mason 2002). Swaying from side to side or backwards and forwards, at times involving the entire body with or without complete lifting of one or more feet is the commonest stereotypy noticed in elephants (Clubb & Mason 2002).

There are approximately 120 captive privately owned elephants in Sri Lanka who participate in public processions mostly held at nights. Before the processions, the elephants are chained mostly using one of the hind legs to hooks fixed to the ground or to trees in close proximity to the place where the procession is to start. Some of them in addition, are also tied with the forefeet to a tree. They are fed with branches and stems of *Caryota urens* "kitul" (leaves and stems), *Coccus nucifera* "coconut" (leaves) and *Artocarpus heterophyllus* "jack" (leaves). When the appropriate time comes, generally around 7 pm, keepers start dressing them up. The dress of the Sri Lankan elephant consists of four pieces, which covers the entire body including the ears. Once they are dressed, they are kept tied until the keepers are requested to bring their elephants to join in the procession.

Once the auspicious time comes, drumbeats begin and dancers and elephants join alternatively from the starting point of the procession. Those who have not yet joined, both dancers and elephants,

wait patiently until their turn comes to do so. The procession moves at an approximate speed of 2 km per hour and at times even slower. Approximately every 50 m it pauses for dancers to perform. The longest procession route studied was approximately 10 km while the shortest was about 2 km. The procession ends generally between 11 pm and 2 am, approximately 5 hours after the start.

The objective of this study was to examine whether privately owned captive elephants while participating in such processions show stereotypies and if so, at what point in time with respect to the procession they show such behaviour.

Methods

Observations were conducted at 4 night processions, in Walpola, Weyangoda, Vishnu and Kandy in Sri Lanka during the year 2009. In each of the processions, all elephants were observed for 15 min for the presence of stereotypies, indicated by weaving (side to side or back and forth) and/or head bobbing (repetitively moving head up and down) before and after dressing (before the procession began), at the start of the procession, approximately half way and at the end. Age, name and sex of the elephants were also recorded. Age groups were considered as subadult (10-20 years), adult (20-40 years) and senior adult (>40 years). Chi square tests at 5% significance were used to assess the significance of results.

Results

In a total of 59 observed elephants, stereotypies were shown by 22. They were mostly weaving (20/22), while one adult male showed head

Table 1. Number of elephants showing stereotypes in the 4 processions* studied.

	Wa	We	Vi	Kandy
Weaving	5	3	2	10
Head hobbing			1	
Weaving & head hobbing			1	
No stereotypes	4	5	7	21
Observed elephants	9	8	11	31

*Wa=Walpola, We=Weyangoda, Vi=Vishnu

bobbing and one adult female head bobbing and weaving. The numbers of elephants showing stereotypes are shown in Table 1. All elephants showing stereotypes did so whenever the movement of procession stopped which was approximately at 5 minutes intervals.

A total of 4 elephants showed stereotypes before dressing. The number increased at each stage from before dressing, to 22 when processions ended. Table 2 lists the number of elephants showing stereotypes at different stages of the 4 processions studied.

The 59 observed elephants consisted of 43 individuals as some elephants participated in more than one procession. Thirty of the 43 were males and 13 females. Fourteen out of the 43 showed stereotypes. A total of 12 elephants participated at more than one of the processions investigated. Six of them showed stereotypes in all processions while the other 6 did not show stereotypes in any of the processions participated. Table 3 shows the age and sex of elephants that showed stereotypes. Ten elephants out of the 14, who showed stereotypes were male.

The longest procession route was Walpola. The length of the route had no statistically significant relationship ($P>0.05$) with the display of stereotypes.

Table 2. Number of elephants with stereotypes at different stages of the processions*.

	Wa	We	Vi	Kandy
Before dressing			2	2
After the dressing	2	2	3	6
Start of procession	3	3	4	8
During procession	5	3	4	10
End of procession	5	3	4	10
Observed elephants	9	8	11	31

*Wa=Walpola, We=Weyangoda, Vi=Vishnu

Table 3. Age and sex of elephants which showed stereotypes.

	Males	Females
Subadult	6	1
Adult	3	3
Senior adult	1	0
Total	10	4

Discussion

It appears that stereotypes are shown only by some elephants and not by others. Those who showed stereotypes are likely to always do so. It appears that this behaviour is individual dependent and it would be interesting to study the history of those who stereotype against those who do not, in order to identify what the possible reasons are.

The number of elephants showing stereotypes increased as the processions progressed. It is possible that in the increasing presence of loud noise, strong illumination and thousands of people, with dancers and torch bearers, surrounding them from the time they are dressed, that they feel uncomfortable. It also seems that they find it difficult to adjust to such situations despite regular attendance of processions. We also observed that most elephants displaying stereotypes showed weaving while only one showed head bobbing and another showed both types of stereotypy.

As none of the processions had calves or juveniles conclusive remarks on “age” is difficult. It is important and interesting to study whether the dress has any association with stereotypes.

Acknowledgement

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Reference

Clubb R & Mason G (2002) *A Review of the Welfare of Zoo Elephants in Europe*. Report commissioned by the RSPCA, University of Oxford, Oxford.