

**ELEPHANT ORPHANAGE AT PINNAWALA, SRI LANKA:
ITS MANAGEMENT AND ASPECTS OF BIOLOGY, ECOLOGY AND
BEHAVIOUR OF ITS ELEPHANTS**

A THESIS PRESENTED BY

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to the Board of Study in Zoological Sciences of the
POSTGRADUATE INSTITUTE OF SCIENCE, SRI LANKA

*in partial fulfilment of the requirement
for the award of the degree of*

MASTER OF PHILOSOPHY

of the

UNIVERSITY OF PERADENIYA

SRI LANKA.

2006



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The Elephant Orphanage at Pinnawala village (EOP) was established in 1975 in a 10.75 ha coconut land by the Government of Sri Lanka to care for at least some of the elephant calves that are orphaned when they are abandoned by the native herds. The Orphanage is situated about 88 km away from Colombo in the Kegalle District. In the orphanage, at present, there are 75 elephants of all ages including 14 adult males and 28 adult females.

Although the orphans are brought to the orphanage from all elephant-dwelling regions of Sri Lanka, these individuals form a cohesive unit led by an adult female (matriarch). The adult males are separated when they are about 8-10 years old and live solitary lives afterwards, but they also maintain a hierarchy, often according to the age. The males are trained for work, although the females are not. In fact, elephants in the main herd of EOP are not fully tamed or trained. They cannot be ridden; nor can they be made to work, but, keepers can lead them to the river for bathing, to the grassland for feeding, or chain them at their special places in the evening.

Mating behaviour, stereoscopic behaviour and sleep behaviour were studied. Reproductive activities mainly take place at the free grazing area of the coconut land or at the river. Real mating will last only 1-2 min. It is not possible to determine whether a particular male would select a particular female in heat, or *vice versa*, because mahouts determine which male should be led to a female in heat. But, almost always more than one male is brought to mate with the female to ensure mating success. Always unrelated males and females are mated to reduce inbreeding.

It appears that the stereoscopic behaviour is resorted to when the animal is in apparent distress or boredom. If the routine activities of the orphanage are proceeding without any disturbance, very little stereotypic behaviour was observed. The intensity of the stereotypic behaviour seems to depend on age, sex, availability of food or water, and severity of the cause of stress.

The main period of sleep of elephants at the orphanage is from 1200-0500 h. The number of hours of sleep reduces with age. Elephants sleep either standing or in recumbent position. The ratio between the period of standing sleep and recumbent sleep increases with increase in age

The EOP has a good captive breeding programme, and, so far (01 January 2006), 34 calves were born over 30 years, 31 of them living. Seventeen male calves and 17 female calves were born at the orphanage. Thus, the sex ratio at birth appears to be 1:1. The programme has now proceeded to the 2nd generation. In 22 years, 15 females have given birth to 34 calves. The birth rate so far is 1.55 calves per year. The average length of the oestrus cycle is 3-3 ½ months. The period in which the female is in heat is 1-3 days. The average pregnancy period is about 22 months. The average age at first calving in EOP is 14.5 years and the average inter-calving interval is 4.8 years.

Several parasitic and bacterial diseases have been identified and treated at EOP. Round worm (nematode) infestations are common at the orphanage. The blood fluke *Bivitellobilharzia nairi* has been identified in the elephants at the orphanage. Any part of the colon of an elephant may get impacted with the fibrous food materials. Sometimes, elephants inadvertently swallow polythene bags along with food materials and obstruction of colon may result. Pododermatitis is very rare in EOP. Sometimes corneal opacity develops in one or both eyes. In severe conditions, eyesight becomes poor or absent.

The EOP provides a ready source for scientific study of biology, ecology and behaviour of elephants. Several researchers from local universities and foreign universities and institutions have engaged in research activities at the orphanage. The EOP veterinary surgeons, in collaboration with foreign scientists, are planning to investigate the paternity of elephants born in Pinnawala using molecular genetic techniques, in order to develop a pedigree and future breeding programme.

The orphanage has a high ecotouristic potential, as it provides, directly or indirectly, employment and income to a substantial number of people in the vicinity, and as it attracts a large number of tourists. In 2005, 433,994 visitors (124,850 foreign and 558,844 local) visited EOP.

Management problems in EOP are more or less similar to those that are experienced in zoos in various parts of the world that keep Asian elephants. However, zoos keep many animal species besides Asian elephants, and lesser number of elephants than EOP does.

Short-comings of the management were studied and remedial measures are suggested. The main inadequacies appear to be in the areas of herd accommodation, grasslands and forest for natural feeding, available staff, and tourist amenities. The management, at present, is taking several important steps to improve these facilities.