

IMMOBILIZATION AND RADIO-COLLARING OF ELEPHANTS IN MUDUMALAI WILDLIFE SANCTUARY, INDIA

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INTRODUCTION

The Bombay Natural History Society had been carrying out studies on the ecology of the Asian Elephant in Mudumalai Wildlife Sanctuary with the assistance and co-operation of the Tamil Nadu State Forest Department. Locating known elephants (especially males) regularly, obtaining precise data on social organization, behaviour and reproductive strategies was found to be difficult. Large areas utilised by the animals, dense forest cover prevent continuous tracking by sight. For this purpose permission was obtained from Government of India to radio-collar five elephants by the Drug Immobilization technique. After obtaining the concurrence of the Government of Tamil Nadu the dates for immobilization and radio collaring the first set of two elephants was fixed in consultation with the wildlife Warden at Ooty for between 25-28 February 1991.

METHODS

The target animals were continuously tracked so as to locate them in a suitable place for approaching them close enough for darting and immobilising them to facilitate fixing of radio collars. The help of departmental elephants (koonkies) was used as ground support. One of the known elephants, namely a cow with a torn ear tip was to be darted. As she was having a young suckling calf of less than two months of age, it was decided to choose another female from the same group which was neither pregnant nor nursing a calf. Similarly one young male with converging tusks (crossed tusker) was to be darted and collared, but it was found that due to the presence of a big male in musth in the same area, the intended animal moved away from the area and could not be located. Hence it was decided to dart one of the new arrivals which had caused injuries to five of the captive elephants of the Sanctuary. But ultimately another young bull had to be darted since we could not succeed in darting the male in musth.

Radio-collaring of the first elephant

After locating the herd containing the young cow elephant to be radio collared the movement of the herd was continuously monitored. On the morning of the 26th February 1991, the herd containing this cow elephant was found to have split into two groups and the group containing this target animal was located in compartment 8, close to the Circular road. The animal was approached on foot and darted from a range of about 5 m. On being darted the animal moved

away and after travelling over a distance of about one and half kilometers, fell down unconscious near the Moyar river. It was tracked with the help of *koonkie* and elephant trackers. The animal was approached and its physical condition was observed. The measurements of the animal were recorded. A radio-collar was fixed around its neck, after administering antibiotics and giving another supportive therapy, the animal was revived by giving an antidote. The entire operation was completed within an hour.

Darting of the second animal

On 27th February 1991, our efforts in tracking and darting the tusker in musth could not succeed, mainly due to weapon failure, i.e. misfiring of the dart - gun at a crucial moment. On 28th February 1991 while going in search of the bull in musth, another known tusker aged about 18 - 20 years was located in Compartment - 13 near Mandradiar Avenue. This animal was found in the company of another young tusker. It was decided to radio collar this animal, as this too was suitable for the study. The animal was stalked on foot and approached close enough, and with the support of two *koonkie* elephants, was darted from the ground. The animal did not travel more than 50m and within seven minutes, it sank down unconscious. The physical condition of the animal was observed and body measurements recorded. The animal had a deep sinus wound (1 cm deep) in the middle of the neck. Antibiotics and other supportive therapy were given. After the radio collar was fixed, the animal was revived by injecting the antidote. The entire operation was completed within 45 minutes.

In both cases the drug used for chemical immobilization was IMMOBILON (combination of Etorpine and Acepromazine) and REVIVON (Diprenorpine) was used by as antidote. Fixing of the drug dosage and loading the dart was done by Dr. V. Krishnamurthy and Dr. Jacob V. Cheeran and the darting was done by Mr. Ajay A. Desai, with the support on ground by Sri Sivaganesan and Laxmanaswamy, and trackers Chenna and Krishnan. After revival, both animals were closely observed, until they started their normal physiological functions like feeding, defaecation, urination etc. Subsequently the animals were monitored by tracking them with the help of Directional Antenna and Receivers.