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DRUG IMMOBILISATION OF INDIAN RHINOCEROS (*RHINOCEROS UNICORNIS*)**Introduction**

Drug immobilisation has been employed in management of Wildlife since the mid sixties and many reports on methodology exist in literature (Young, 1973 and Harthoorn, 1976). There are several reports on the use of this method with Asiatic Elephant (*Elephas maximum*) in Malaysia (Jainudeen and Khan, 1977, Jainudeen et al. 1971) Sri Lanka (Jones 1975; Hofmeyr, 1979) in India drug immobilisation of Wild Animal (Elephant) using the powerful morphine derivative etorphine hydrochloride or M. 99 has been reported in three cases only. In Orissa (Choudhury and Patnaik, 1982), West Bengal (Ghosh, 1982) and Uttar Pradesh (J.B. Sale and V. Rishi et al, 1986).

The method has a number of potential uses in the context of Wildlife management in India and mostly used for immobilising the wounded animal treatment in Wild, or translocation of the animal from one place to another. In addition to being highly selective, it has the advantage of causing less disturbance to the Wild herd.

In the light of the above information on drug immobilisation on Wild Rhinoceros is presented. A female Rhinoceros (*Rhinoceros unicornis*) found to be wounded on the head and chest (Fig. 1 & 2) due to bullet shots of a poacher and the animal became sick. To treat this animal immobilisation was taken

up. The operation was carried out in Jaldapara Wildlife Sanctuary, West Bengal on 29th December, 1985.

Fig. 1**Head injury****Fig. 2****Chest injury****Methodology**

The sick animal was identified and surrounded by domestic elephants. The animal was darted with immobilin (Rackitt and Colman Hill, U.K.) a mixture contain-

ing 8 mg of narcotic etorphine hydrochloride and 20 mg acepromazine maleate. The antagonist used was Revion (Rackitt) which contains 3 mg of diprenorphine hydrochloride and is a specific antidote for etorphine. The acepromazine is not antagonised and has a residual tranquilising effect on the animal after it is remobilised.

The immobilising solution was darted

in to the Rhinoceros using a distinct M. 60 power rifle and its accessories (Peter-Ott & Co., Basel Switzerland).

Observation

The induction time (time from darting to going down) was 15 minutes. The Rhinoceros fell first on its hind legs and within two minutes attended partial recumbency.

Size of Rhino	Approx. weight (Kg)	Dose of immobilin	Induction time (mm)
(a) Length from tip of the nose to hind quarters 365 cm	4390	8 mg Narcotic etorphine hydrochloride and 20 mg of acepromazine maleate.	15

Physiological condition of the immobilised animal

Rectal temperature	Respiration	Heart beat
102°F (39°C) (Normal body temp. 97 to 97.5°F)	10-12/minute	25-32/minute

NB: During immobilisation body temperature was higher than normal.

Treatment

The animal was treated for wound below left ear i.e. a hole of 3.75 cm dia and 10 cm deep (Fig. 3) and a chest wound behind scapula i.e. one hole of 3.75 cm dia

and 12 cm deep (Fig. 4). Antibiotic were also applied intramuscularly. The entire treatment took 1 hr 5 min. After the treatment the animal was injected with 3 cc of *revivone* intravenously.

The revival time was three (3) minutes. After three months of the treatment the

wounds healed up completely and the animal regained good health.

Fig. 3



Treatment of sick Rhino.

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Fig. 4



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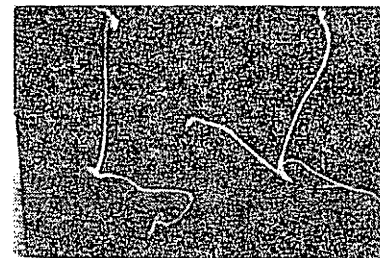
A NOTE ON TWIN SEEDLING IN *AEGLE MARMELOS* CORREA

Aegle marmelos Correa is a deciduous tree. It is wild in sub-Himalayan tract, central and southern India. It is drought and frost resistant and suitable for plantation purposes in drier areas. For the study of seed germination and storage, the seeds were collected from Ramna forest, Sagar district during June 1989.

For germination, the seeds were soaked with water and placed in seed germination incubator at $27 \pm 2^\circ\text{C}$. Out of 1000 seeds, two seeds produced twin seedlings (Fig. 1). Both the seedlings were observed for their growth for two months after which both of them were died.

The twin seedlings described here are apparently the result of polyembryony which has not so far been reported in this species.

Fig. 1

Normal and Twin seedling in *Aegle marmelos*

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