

ocular tubercle and the thoracic region. Abdomen longer than wide, narrowing behind covered with dense velvety hair and some spine like hair coloured above with a broad whitish yellow bands with its sinus lateral edges bordered with deep blackish brown, sides or upper surfaces is pale brown from black edging of the median bands to deep blackish brown lower surface. Mandibles dirty brown above and black below towards the tip. Palps greyish white above, brownish on upperside of the femur and tarsus with black lines in the tibia and patella. Lower and inner side of the femur deeply velvety black. Legs are brownish grey with black patches and lower side of the first and second pairs of legs have bright lemon yellow with blackish brown band with blackish brown tips. The lower side of the third and fourth pair are bluish white with blackish brown band and blackish brown tips.

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CHEMICAL IMMOBILIZATION OF BLUE BULL (*Boselaphus tragocamelus*) WITH KETAMINE - XYLAZINE MIXTURE AND ITS REVERSAL WITH YOHIMBINE HYDROCHLORIDE

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The Assam State Zoo has a stock of Nilgai (*Boselaphus tragocamelus*) since 1961. They have been successfully bred and presently their number has increased to 15. As it has become difficult to retain the entire herd in the original enclosure (about 100 sq.m.), particularly in the face of two adult males fighting each other, it was decided to transfer a unit of two females and one male to another enclosure which is located about 200 meters away.

The translocation operation was planned on a Friday during November. The month is moderately cool with high relative humidity in Guwahati. Friday was selected as the zoo remains closed for the visitors. No food was offered to the herd since the previous evening. Out of the two adult males, the younger (approx. body wt. 200 kg) was selected for transfer and was darted on the quadriceps using a 3 ml. metal dart from a distance of about 7 meters. Xylazine^a (100 mg/ml) - 2 ml. and Ketamine^b (100 mg/ml) - 1 ml was filled in the dart which was projected through a Dist Inject Pistol^c using a blue cartridge (art-2012) and an appropriate syringe charge (art - 2006).

The animal jumped and then galloped across the barn nervously on receipt of the dart. The first sign of sedation with lowering of the head and slight staggering, was evident after 5-6 minutes of darting. As sedation became stronger, the animal knelt down, head balanced against the ground, saliva drooling and the tongue protruded to one side. The darted animal would jump up and gallop again whenever disturbed by its curious companions. Whenever this happened the animal would stop quickly and go to sternal recumbency with hind quarters raised. Lateral recumbency was achieved after 23 minutes of darting. The animal was left undisturbed for 30 minutes and then examined for the depth of sedation by throwing a small dart. Subsequently on close examination, the animal was found deeply sedated. The limbs were tied with ropes and the animal was lifted over a gunny bag and brought

out of the barn. The herd galloped nervously as the team worked inside and care had to be taken to avoid any accident.

The animal was transferred to a hand puller and rushed to the new enclosure. The animal was unloaded under the shade of a tree and examined for vital signs. A remarkable respiratory depression and hyperthermia was recorded, but the cardiac functions remained within normal limits. The palpebral reflex was lost and the tongue was found dirty with soil.

Cool water was sprayed over the body and the tongue was washed with clean water. Xylazine antagonist Yohimbine Hydrochloride^d (10 mg/ml) - 3 ml was injected into the saphenous vein within 2 - 2.5 minutes, the animal jumped up to its feet and ran away to the opposite side but stopped under the shade of another tree, where it lied down again. When examined for the post reversal sedation, the animal jumped up and ran away.

Two females were also transferred into the new enclosure in similar way. For darting, apparently healthy and non-pregnant females were chosen and same amount of drugs were used with satisfactory results. The transfer procedure did not appear to have caused any physical and psychological distress to the animals which were observed closely for several weeks after the transfer.

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^a Sedazine™, Forte Dodge, IOWA 50501, USA.

^b Ketamine, Laboratories Cheminova International, SA.

^c Mod - 30, Peter Ott Co. CH- 4007, Basel, Switzerland.

^d Antagozil, Troy Laboratories Pvt. Limited, NSW 2164 Australia