

Capture and Anaesthesia of Wild Mongolian Equids – the Przewalski's Horse (*Equus ferus przewalskii*) and Khulan (*E. hemionus*)

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Abstract

Science-based conservation efforts in general, and wide-ranging equid conservation specifically, often require capture and subsequent handling of the subject animal. Safe and animal-welfare appropriate wild equid capture and anaesthesia is a complex operation necessitating a multitude of skills that require appropriate veterinary training. The agent of choice for wild equid capture and anaesthesia is the potent opiate ethorphine in combination with specific opiate antagonists that allow for the complete reversal of the anaesthetic effects. The recommended dosage for a healthy, wild adult Przewalski's horse is 2.5-3.0 mg ethorphine, 10 mg of the alpha2-agonist detomidine and 10 mg of the opioid agonist-antagonist butorphanol. In Przewalski's horses ethorphine is reversed with the opioid antagonist naltrexone (200 mg). In khulan procedures anaesthesia was induced with a combination of 4.4 mg Ethorphine, 10 mg Detomidine and 10 mg Buthorphanol. Anaesthesia was reversed with the opioid antagonist-agonist diprenorphine or a combination of 200 mg naltrexone and the alpha2-antagonist 20 mg atipamezole. All equids were standing and alert approximately two minutes following administration of the antagonists.

Key words: Anaesthesia, *Equus ferus przewalskii*, *Equus hemionus*, Khulan, Mongolia

Introduction

Science-based conservation efforts in general, and wide-ranging equid conservation specifically, often require capture and subsequent handling of the subject animal. Probably, the two most common research reasons that require the capture of animals are the placement of radio-telemetry devices and the collection of biomedical materials (Osofsky & Hirsch 2000). In order to develop management plans for Mongolian equid species, which range over vast areas, the use of radio-telemetry is an essential tool. Radio-telemetry allows the researchers to better understand habitat requirements and to delineate the areas of potential wildlife-human conflicts. Mongolia has two wild equids that need to be considered: the Przewalski's horse (*Equus ferus przewalskii*) and the Mon-

golian wild ass (*E. hemionus*). Wild equid capture and anaesthesia is a complex operation requiring a multitude of skills. Prior to capture, the purpose and circumstances of the procedure must be considered to be both practical and essential (Osofsky & Hirsch, 2000). Every anaesthetic event bears the inherent risk of significant injury and potential death. Though this risk is for the most part very small it must be ascertained that the procedure is necessary and that the potential gains outweigh the risks (Kreeger *et al.*, 2002). Necessary permits must be procured well in advance of the planned event.

The purpose of this paper is to provide information and a minimum set of guidelines towards planning and performing safe capture and anaesthesia events in wild Mongolian equids in-situ. The environmental and logistical constraints in