

Experiences of catching chamois (*Rupicapra rupicapra*) in a wooded mountain area in Switzerland

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Introduction

A project to investigate the phenomenon of chamois, living in forests had been launched by the federal office of environment, forest and landscape. WildARK got the opportunity to execute these studies. The investigation of the wood-chamois forced us to apply telemetry techniques because observations of animals in the forest are very difficult or nearly impossible due to the dense vegetation. So to get data on home-ranges, activities, migrations etc. to rely on, the chamois must have been equipped with transmitters.

The animals were caught alive to put on the collars with the transmitting unit. Considering the prevention of cruelty to animals the traps to catch the living being are basically dangerous (Sambraus and Steiger 1997). The problem by catching ungulates alive is the danger of losses because all species of them overreact more or less to the catching-stress. The animal get into a sudden predicament. Circulatory collapses for example may occur very fastly (Stubbe *et al.* 1995). A chemical immobilisation would encounter this situation but there could be problems after releasing the animals in the wild. Drugged individuals are in danger to plunge down, especially species living in steep and rocky areas like the chamois. Further more new researches shows that there could be life-history effects of chemical immobilisation on female individuals. The life reproduction of a female mountain goat could be reduced, when it once was under sedation in the age of 3 to 4 years (Côté *et al.* 1998). There is also showed that following capture, drugged females abandoned their kids more often than undrugged nanny-goats and abandonment decreased kid survival.

Methods

To avoid influences on reproduction by chemical immobilisation we have done the captures without sedation-medicaments. For our capture we evaluate the elastic foot-snare-trap, which is released by the animals themselves (Cugnasse *et al.* 1988; Appollinaire *et al.* 1990; Menaut 1994). The release of the trap is achieved with a stumbling

wire, which is tight over the game runway. Two snares are drawn up with an elastic rubber rope. Normally the animals are caught only on one leg so they are able to move relatively free. Attempts to escape will be slowed down by the elasticity of the rubber rope. We used a total of 180 snares which were installed in 11 trap-circles. An electric surveillance of all "armed" traps guaranteed at every time the immediate action of the capture-team. The traps usually were "armed" during 3 to 4 days and nights. All capture-units within a trap-circle, about 20 - 30 traps, were connected with an electric cable. The currency was spent by a 24Volt car-battery that was placed at the location of the capture team. The location depends on the distance to the traps and it can be a biwak, a tent, a hut, a car, a trailer and so on. The release of a trap cut off the closed electric circuit and results in an acoustic alarm-clock that gives the "combat order" for the capture team.

The team consists of two persons. One person is for catching and holding the animal while the other person is busy with the handling of the individual. There is no need of chemical immobilisation because the captured game immediately got an eye-patch, which results in a sudden calming down of the animal. The stress of viewing the capture team will be immediately reduced. The animals respiration and its heart-beat return to normal. The handling time to measure and tag an individual was between 30 to 45 minutes and was released afterwards in the wild with fully conscious.

Results

Due to the electric surveillance and the permanent presence of the capture-team the time between the release of a trap and the beginning of handling range from 2min - 32min with a mean of 11.5 min. In a total time of 14 months we caught with the foot-snares 57 animals of different species (Table 1).

Chamois (<i>Rupicapra rupicapra</i>)	38
Roe deer (<i>Capreolus capreolus</i>)	9
Badger (<i>Meles meles</i>)	4
Red fox (<i>Vulpes vulpes</i>)	4
Hare (<i>Lepus europaeus</i>)	1
Snowhare (<i>Lepus timidus</i>)	1

Table 1. Number of captured animals by foot-snare traps in different species during a time of 14 months.

The list above shows only the individuals that were released in the wild by the capture team. Several times there were captured carnivores like Red foxes (*Vulpes vulpes*) and two times even a lynx (*Lynx lynx*). But these animals were able to bite the rope of the snare and got rid of the trap themselves.

What is concerning ungulates the traps were fairly effective, but nevertheless the capture require a great deal of time-investment. The expenditure of time for the capture of the representative sample in our project amount to in round figures 6,500 hours. It corresponds with 170 hours per individual of chamois (adults and kids). The time-costs for every new telemetry-chamois however amount to 260 hours per individual, because kids weren't equipped with collars. The total of 38 chamois represent a fairly good sample to study the local wood-chamois-population in the investigation-area. The aim of the study demanded more female chamois than males. So the flexible operation with the foot snares allowed us to put them at locations where mainly herds of females were standing. Of 38 chamois there were 25 adult telemetry-individuals and 13 kids. The distribution of the sexes was with 18 to 7 individuals in favour of the females.

Discussion

The use of the foot-snare-trap to catch small ungulates like the chamois or the roe deer is recommendable. The snare-method has several advantages like:

- the flexibility and mobility of the trap for positioning,
- the possibility that the trapped animal can move itself relatively free and thus the danger of injuries is reduced,
- the fact, that there is no need for chemical immobilisation to calmly capture individuals,

-the careful capture ensured by the elasticity of the rubber rope,

-the economic production of the traps.

On the other hand this method of the capture require a great deal of time-investment. The capture team must be instructed very carefully how to act and handle the captive game to minimize stress to the animal and handling time. Preferably the traps have to be installed in a place where trees are available. This restriction may influence the operation-potential of this capture method.

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