

A capture snare for the smaller mammal predators and scavengers

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ABSTRACT

A capture snare, designed and constructed for the capture of black-backed jackal, and similar predators, is described. The snare has been used in various localities in the Transvaal and found to be more effective for civet cats than for black-backed jackal.

1 INTRODUCTION

The development of this apparatus arose from the need for a capture method for black-backed jackal (*Canis mesomelas* Schreber) during a tagging study conducted by Bothma (1971a) and during preliminary telemetry studies in the Western Transvaal.

Box traps and steel traps could not be used as the Western Transvaal is a sheep farming area and farmers have hunted the black-backed jackal with these methods for decades, making the animals extremely wary. The main advantage of the snare is that the possibility of injuries is low. The most obvious disadvantage is that once an animal has been released it cannot be recaptured using the snare.

2 MATERIAL AND METHODS

2.1 Construction of the snare

Each capture snare consists of the following components: Hollow fibre glass fishing rod 3,6 m long (known commercially as a "blank rod"), steel base, retaining pin, 49 strand 200-300 kg breaking strain steel cable (seven strand X seven strand — known commercially as "Trolling line"), coyote getter head, triggering lever with fulcrum pin, hooked pin, holding pin, cable pin, swivel and crimping sleeves.

Fig. 1 is a diagram of the snare.

A pair of crimping pliers is required in the construction of the snare in order to close the crimping sleeves. The fibre glass rod, steel cable, swivels and crimping sleeves are readily available from fishing tackle dealers.

Ordinary galvanized piping of 25 mm and 35 mm inner diameter and flat iron are used in the construction of the retaining pin and the steel base. Flat iron is used in the construction of the fulcrum pin of the triggering lever as well. Lengths of steel brazing rods are used for the triggering lever, the holding pin and the cable pin. The hooked pin is made of 10 mm thick wrought iron and the part of the retaining pin which is driven into the soil is made of a length of 20 mm thick steel rod. The fulcrum pin is attached to the triggering lever in such a manner that one end of the lever is twice as long as the other. The coyote getter head is attached to the end of the longer section of the lever.

The thicker end of the fibre glass rod fits into the steel base in which it can move from a vertical position to an angle of approximately 60°. The steel base fits into the retaining pin in which it can rotate. The retaining pin is driven into the soil.

The steel cable is attached to the steel base and runs through the fibre glass rod to protrude at the sharp end. The thick end of the fibre glass rod is bound

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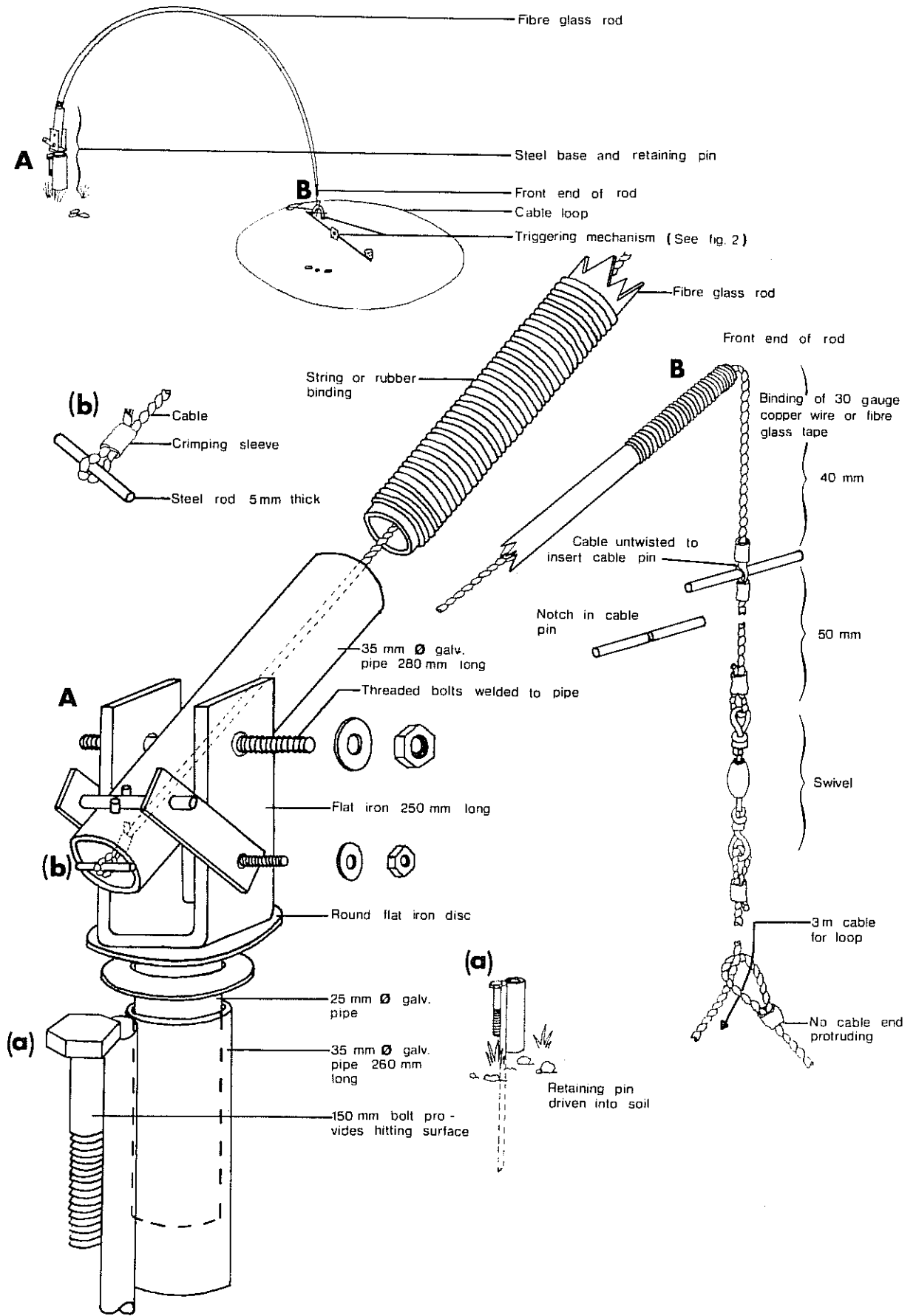


Figure 1. Diagram of the snare showing the construction.

up with rubber or string in order to protect it from damage in the pipe fitting of the steel base. The sharp end is bound with 30 gauge copper wire or fibre glass tape to prevent it being split by the steel cable protruding from the rod.

The cable pin is notched in the middle and inserted between the strands of the cable 40 mm from the end of the rod and held in place by a crimping sleeve around the cable at each side. The swivel is inserted into the cable using crimping sleeves another 50 mm further down. The length of cable remaining should have a length of approximately 3 m. In this length the loop is made using another crimping sleeve.

2.2 Setting in the snare

In setting the snare, it was found advisable to camouflage it well. The operator should also leave as little human scent on the surrounding vegetation and soil as possible. Snares were therefore always set in such a way that the rods were hidden between the foliage of a bush or shrub. It was also found advisable to wear a pair of gloves and to stand on a hessian sack while setting the snare. An ordinary bricklayer's trowel was used to bury the cable to prevent the hands coming into contact with the soil.

The operator requires an assistant to set the snare. The procedure is as follows: The retaining pin is driven into the soil in or behind a shrub. The fibre glass rod is bent over through the shrub so that the point touches the ground on the opposite side. A mark is made at this point. The rod is now released and the hooked pin driven into the soil at the mark. The fulcrum pin is now driven into the soil in such a manner that the coyote getter head on the triggering lever is on the opposite side of the fulcrum pin to the hooked pin and so that the end of the triggering lever is alongside the open end of the hooked pin which has already been driven into the soil. The fibre glass rod is now once again bent over and the holding pin and cable pin are inserted into the loop of the hooked pin in such a way that an upward movement of the coyote getter head on the triggering lever will release the cable pin and so release the fibre glass rod from the hooked pin. During this part of the setting an assistant is required to hold the fibre glass rod so that it cannot spring upwards and injure the operator. See fig. 2 for the positioning of the triggering lever, hooked pin, cable pin and holding pin.

The snare loop is now buried in the soil to form a circle with the coyote getter head in the centre of the circle. The end of the fibre glass rod and the triggering mechanism are camouflaged with litter such as leaves and bits of grass. The rest of the triggering lever and

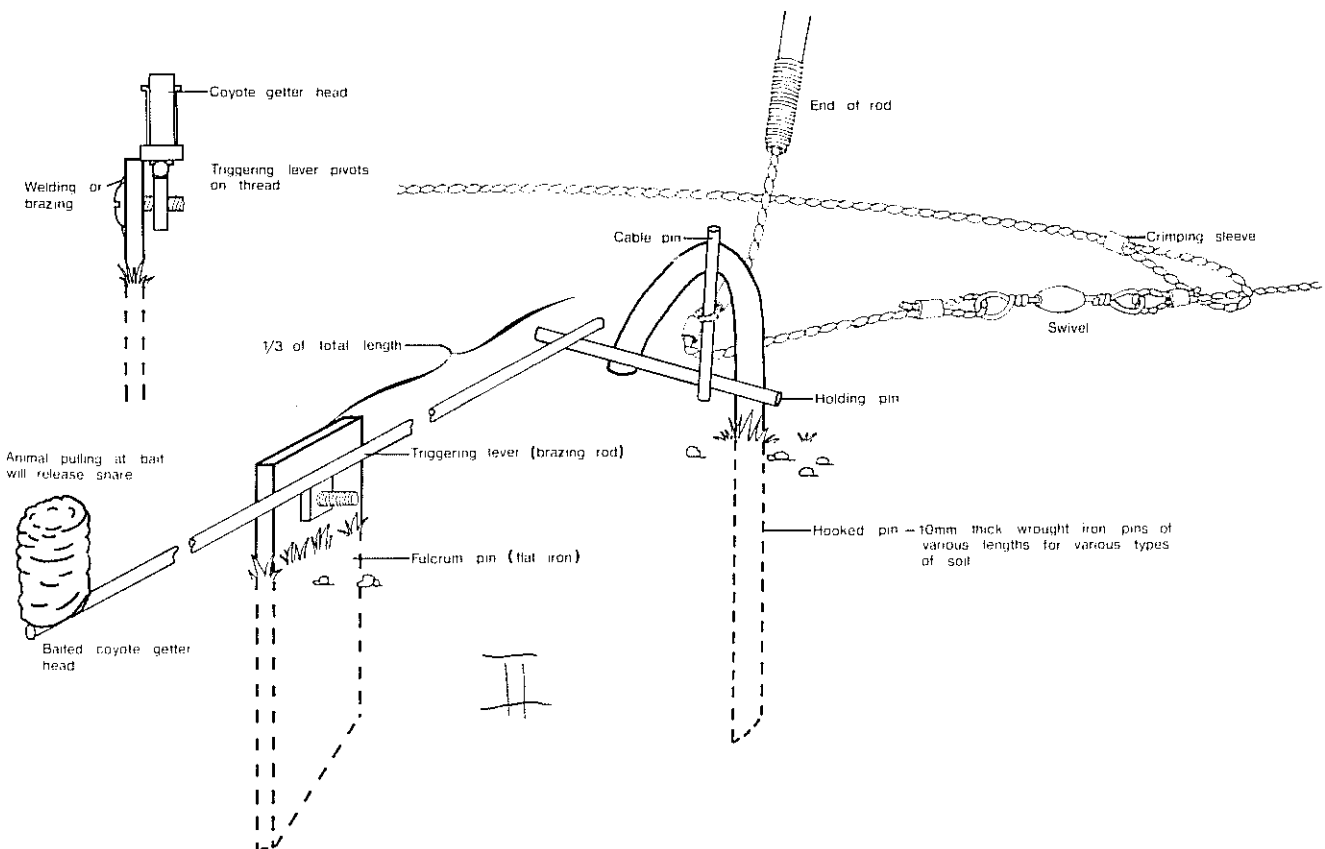


Figure 2. Diagram showing the construction of the triggering mechanism and how the snare is set.

fulcrum pin are now covered with soil so that only the getter head protrudes. The getter head is now carefully baited with one of the coyote getter baits described by Van Rensburg (1965). Before leaving the capture point the soil should be carefully smoothed over using a dry branch to obliterate any signs of disturbance. The snare should be visited and rebaited daily.

An animal captured, is held firmly but not tightly by the snare loop around the thorax just behind the shoulder blades. The animal remains on the surface with all four its paws, but due to the tension of the cable and the fibre glass rod it is unable to execute very powerful movements.

An assistant is required to remove an animal from the snare and this should be done with the aid of hessian bags and welder's gloves to prevent injuries. Once the animal has been removed, it can be immobilized by injection of one of the modern drugs suited to carnivores.

2.3 Trapping technique

Black-backed jackal, civet cats (*Viverra civetta* Schreber) and silver fox (*Vulpes chama* A. Smith) have been captured using the snare at various localities in the Transvaal. A test of effectivity was made at two localities namely, the farms Maryland and Artonvilla north of Messina and the farm Welgedaan north-east of Christiana in the south-western Transvaal.

All snares set during the capture period were taken to have an equal chance of snaring a jackal as a snare was only set where definite signs of jackal were present. A snare was pulled up only under the following conditions:

- When it was continually set off by other scavengers such as crows or mongoose.
- When cattle continued trampling the snare thereby setting it off.
- When the snare had already captured a black-backed jackal at a certain capture point.
- When signs of black-backed jackal were absent from the capture point for more than two weeks.

All snares were visited and baited daily.

The capture of the civet cats at the Messina locality was incidental to black-jacked jackal capture but they are nevertheless included in the effectivity calculations as the capture of civet cats was not avoided. Thus a snare that had captured a civet cat at a certain capture point was pulled up in the same way that it would have been had it captured a black-backed jackal. In the same way such a snare remained set for the required period mentioned in condition d, if civet cat sign were present.

Effectivity is measured as the number of snare-days per animal caught (snare-days = number of snares set \times number of days during which snares were set). It is thus calculated in the same way as it was done for the coyote getter by Van Rensburg (1962) and Bothma (1971b).

3 RESULTS AND DISCUSSION

The results are given in Table 1 below.

Table 1. The effectivity of a capture snare for predators used during 1972 and 1973 in the Transvaal.

Capture locality:	Maryland and		Total
	Artonvilla	Welgedaan	
Number of snare days	85	576	661
Black-backed jackal captured	1	2	3
Civet cats captured	6	—*	6
Number of snare days per black-jacked jackal	85,0	286,5	220,3
Number of snare days per civat cat	14,2	—*	
Number of snare days per animal	12,1	286,5	

* The civet cat does not occur in the south-western Transvaal.

The total capture rate for black-backed jackal for both localities was calculated to be 220,3. This could not be done for the capture of civet cats as the civet cat does not occur in the south-western Transvaal.

Although no definite conclusions can be drawn there is a marked difference evident between the capture rates for black-backed jackal for the two localities. This can be ascribed to the fact that the black-backed jackal in the south-western Transvaal has been hunted constantly by sheep farmers making them extremely wary. The black-backed jackal population at the Messina locality lived within a nature reserve and were less wary.

The occurrence of rain showers appears to affect the capture rate. Both animals captured at Welgedaan were captured on the morning following a rain shower. A rain shower would tend to obliterate any signs of disturbance and human scent at the capture point. This is borne out by the fact that it was deduced from tracks that on many occasions during dry periods, snares were visited by black-backed jackal but were not set off.

The snare was found to be more effective for civet cats than for black-backed jackal. It could thus be employed usefully by anyone attempting to study the civet cat.

Only superficial injuries were sustained by the animals captured.

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