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TRAPPING - THE OLDEST PROFESSION

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ABSTRACT: While trapping is probably the oldest pursuit of man, predating hunting and agriculture, it has not undergone many drastic changes since the first primitive attempts. An arbitrary classification of traps [improvised traps, snares-and nets, cage traps, spring traps and glues] is discussed and examples of each group given. As the behavioral and physical characteristics of vertebrate animals vary so much, it is impossible to discuss trapping procedures in any detail, but certain principles apply to most situations. These are: (1) need for an understanding of the target species' habit patterns, (2) selection of a trap size and design suitable for a given situation, (3) recognition of the need for a more humane approach, (4) maintaining traps in satisfactory mechanical condition, (5) proper placement, (6) attractive bait, (7) adequate concealment, and (8) a sufficient number of traps for a project.

Some credit prostitution as being the oldest profession but before the first cave dweller could pay a couple of skins for the pleasure, he had to catch the original owners. So trapping is indisputably the oldest profession known to man. There is a similarity between trapping and prostitution, however, as in both arts the amateur feels he (or she) knows more than the professional. While not qualified to speak for the professional prostitute, I feel that in trapping, at least, the professional can produce more and give greater satisfaction than the amateur.

The first traps were probably pitfalls (Osborn, 1930). Our forebears would merely run a herd of mastodons off a convenient cliff, but as they became more "civilized" they dug pits and covered them with brush so that they didn't have to wait on the right set of circumstances. Snares followed pits and are still in use today with little basic change other than the substitution of airplane cable for human hair, which doesn't speak too highly of our technological advance in this field. Deadfalls also remain essentially the same as those illustrated in the early books on trapping (Gibson, 1881) or the anthropological studies of early western cultures (Mason, 1902). Cage traps also had an early origin as a ceramic live trap for catching mice dates back to 2500 B.C. (Anonymous, 1967). The trap that pushed the American frontier westward was the spring trap which had to await the discovery of iron before making its appearance. Thus, trapping has been associated with the progress of man down through the centuries. It may not be as important in the "atomic age" and what follows as it was in the previous ones, but it will still command interest and a dedicated following.

With the realization that any classification of traps into different groups is arbitrary because of overlapping designs, but in the interest of organizing my notes into some semblance of order, I have attempted to categorize traps into five types:

IMPROVISED TRAPS

These are traps that utilize materials and/or physical conditions commonly present on a given site. This group includes the most primitive of traps—pits and deadfalls—as well as some more sophisticated devices as the setguns. Pits were first natural ravines the animals could be stampeded into. Later holes were dug in game trails and covered with mats of vegetation that would collapse under an animal's weight. Variations included leaving a center core of dirt on which bait was placed (Young and Goldman, 1944) or building a pit above ground by driving stakes into a circle at a 45° angle leaving a small opening at the top. Dirt piled on one side permitted wolves to scramble to the top and jump down through the opening to get at the bait below (Grinnell, 1917). Pits in the form of camouflaged barrel tops (Gibson, 1881) or floating corks which would drop rats to a watery death (Hogarth, 1929) were some of the first rat traps. The principle is still used to sample field rodent populations by placing buried cans filled with preservative at the end of drift fences (Howard and Brock, 1961). Another type that belongs in this group as they are essentially horizontal pits are the pen or corral traps into which hoofed animals (Taylor, 1947), jackrabbits (Palmer, 1897) and waterfowl (Wilbur, 1967) are herded in big drives.

Deadfalls, too, have an ancient history with ties to modern times. They are probably the most humane of all traps as they are designed to crush the life out of a victim instantaneously. Deadfalls have been used on everything from mice to grizzly bears. Gibson (1881) and Petrides (1946) give a number of ingenious examples of these devices. Setguns, horizontal deadfalls, illustrate the universal ingenuity of man. In India we find the Urang rat trap (Kirkpatrick, 1955) and across the waters in South America the bow and arrow device of the

Arawak tribe (Roth, 1926). The advent of firearms brought new dimensions to the deadliness of these devices when whaling guns were used as setguns to impale grizzly bears (Storer and Trevis, 1955).

SNARES AND NETS

In this category we think mainly of running loops or nets used to entangle prey animals; however, we can also include the inhumane practice of using hooks to catch higher vertebrate species. The Eskimo used pieces of whalebone forced into S-shapes and tied with sinew. These were then wrapped in blubber and frozen. When solid, the sinew was cut and the bait thrown out for wolves or polar bears. In the heat of the animal's stomach, the whalebone would spring open and rip into the stomach walls causing it to die nearby (Nelson, 1899). No less painful, however, was the practice of white trappers to tie 3 cod hooks together, bait and suspend them four to five feet off the ground. Wolves grabbing the bait would be held upright until they died or were killed (Ross, 1956). The use of grain baits threaded on fine vegetable fibers or hair ropes to be swallowed by greedy birds were known to the peacock trappers of India (Kirkpatrick, 1955) as well as farmers in this country to catch crows stealing seed corn (Gibson, 1881).

The typical snare, however, is a running loop. Placed in trails traveled by prey animals, obstructions guide the animal in the exact path to be caught. Snares have been used to catch everything from small rodents to moose so there are many styles and variations (Petrides, 1946; Giles, 1969); but, they have improved little over those of ancient man. Snares can be set to catch an animal by the foot or by the neck to strangle him quickly. They can be set with a spring pole or rock fall to hang the victim out of reach of hungry predators. The footsnare for bear has been improved so that a spring release throws it higher up on the foot (Troyer, Hensel and Durley, 1962). This snare has now replaced the dangerous and cumbersome No. 5 bear trap in the U.S. Bureau of Sport Fisheries and Wildlife's animal damage control work (Bacus, 1969).

Another type of footsnare widely used by falconers is the bal-chatri (Berger and Mueller, 1959). This consists of a series of small nylon snares attached to the periphery of a cage baited with a starling or mouse. Though the knowledge of this device probably came from India (Craighead and Craighead, 1942), a very similar type was used by South American aboriginals (Roth, 1926).

Nets, too, have been used from time immemorial. Fish have been trapped by nets for a long time, but these devices were probably used first on land animals. Cones of reeds or coarse bark were used by African natives to entrap herded small animals (Mossman and Reynolds, 1962). The North American Indians used nets under the ice to catch beaver as they fled when their lodges were broken into from above while their kindred of the north did the same for seals around blow holes (Nelson, 1899). Nets were also used by natives to hold tigers in India until they could be shot or speared. Fraser (1902) describes the rather thrilling techniques used in this pastime. In modern situations, nets are dropped over big game like deer (Ramsey, 1968) and turkey (Baldwin, 1947). The biggest technological advance has been the discovery of nets thrown by cannons (Dill and Thornsberry, 1950). Nylon mist nets, adapted from the fine silken nets used by Asiatics are an important trapping tool of bird banders in this country (McClure, 1956). A spectacular use of netting, if not a practical control measure, is the large light traps used by the U.S. Bureau of Sport Fisheries and Wildlife. These immense nets are arranged in a funnel shape with the mouth facing a bird roost. In the middle of the night, powerful searchlights are turned on in the small end of the funnel and a commotion set up on the far side of the roost to drive the bewildered birds towards the light (Anonymous, 1961). We can also include clap and bow traps in this group because the progenitor of these were nets laid on the ground to be pulled up over the birds by an observer (Christensen, 1962). Modern counterparts were made automatic by a triggered spring action (Tordoff, 1954).

CAGE TRAPS

These are automatic live traps catching the animals in boxes, cages or pens. Generally, they are bulky, expensive and less efficient than some other types. While outwardly of great variety, there are in reality only a few basic types:

<u>False Floors</u>

As the animal steps on a pivoted floor, his weight drops him into a compartment. The counterbalanced floor quickly rerights itself for the next victim making this a multiple-catch type of trap. Examples are the tip-top trap for grouse (Peterle, 1956) and the sparrow

nest box trap (Dearborn, 1917). A novel adaptation is the Kness Ketch-All trap in which a spring-wound device throws the trapped mouse into a large compartment and resets itself for the next victim.

Triggered Doors

In these the door is closed as the animal upsets the delicate stop holding it in place by stepping on a treadle, pushing against a set wire or reaching for the bait. This is a single catch trap though sometimes several animals are caught as they crowd into the trap before the door is released. Examples are the bear culvert (Erickson, 1957) and big game traps (Giles, 1969). In some cases the whole cage rather than the door is dropped on the animal as in the familiar figure-four trap (Gibson, 1881) or the sieve trap for sparrows (Dearborn, 1917). The only really modern development has been an electrically-operated rat trap that saw a short life in the middle forties. The doors were triggered shut as the animal entered the tunnel and broke the electric eye light beam. Lights flashed on in a side entrance and the animal would dash up this only to be electrocuted at the end of the runway and the carcass dropped into a holding chamber. At the same time, this set the cycle in motion opening the doors for the next customer. Production costs soon priced this model off the market (Anonymous, 1945).

One Way Door

The animals push through a door set at an angle so that they cannot back out. While this has been used as "bobs" on pigeon traps (Conway, 1949), the principle has not been too successful on mammal traps.

Funnel Traps

The principle of most fish traps has also worked well for birds, if not too effective for mammals. Funnel traps offer an easy way in and then bewilder the victim by presenting only a small exit out. While some individuals can escape from this type, most cannot figure their way out. Common examples are the clover leaf (Liscinsky and Bailey, 1955), the U.S. Biological Survey sparrow trap (Dearborn, 1917) and the Australian crow trap (Rowley, 1968).

SPRING TRAPS

These are automatic traps, triggered when the animals move a latch thus releasing metal jaws which hold tight on the leg by spring tension. Starting with the predecessors of Mascall's 1590 trap, the first design to appear in print, these have served mankind well (Schorger, 1951). The first traps were for predators, but they have been adapted for everything from rats to man. For the last species, they became awesome things. Used to discourage poaching on large English estates, they weighed up to 88 pounds, exerted a pressure of over 600 pounds, sometimes had 3 inch spikes and a locking action that required a special key (Mannix, 1967). The law required that where these traps were set, large posters had to be displayed warning trespassers. This was the origin of "posting" land.

The father of the spring trap business in this country was Sewell Newhouse who began making traps in Oneida Castle, New York, around 1823 (Drahos, 1951). Copying a 1768 English trap design, he made fifty traps a year out of old axeheads, scythes, files, bolts, etc. These he used himself, later selling some to the Oneida Indians for 62¢ apiece. The Oneidas took Newhouse's traps with them when they moved to Green Bay, Wisconsin, in 1833 and from Green Bay the fame of the Newhouse trap spread westward. It is a commentary on Mr. Newhouse's skill that his trap design is basically unchanged on the modern steel trap.

The spring trap has been the center of controversy and there has been much encouragement to develop a practical but more humane substitute. However, the only rival to appear has been the Conibear. This kills more humanely but in larger sizes is less effective and very dangerous. The common snap or guillotine trap for rats and mice is included in this group as it is essentially a single-jawed spring trap.

GLUES

Sticky substances have been used for a long time to entangle and hold small birds and mammals. An early description of a "bird lime" using holly bark is given by Johnson (1832). Malay bird catchers use sticky gums from forest trees with Dipterocarop wood oil (Bourke, 1925). I have seen Indians in Calcutta deftly trap loose birds in the market place with a long spear tipped with the sticky gum of the peepul tree (Ficus religiosa). This peepul tree

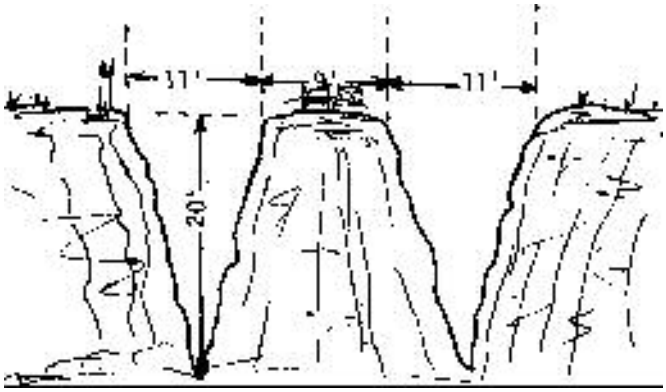


Fig. 1. Primitive Mexican wolf pit with a central core for bait.

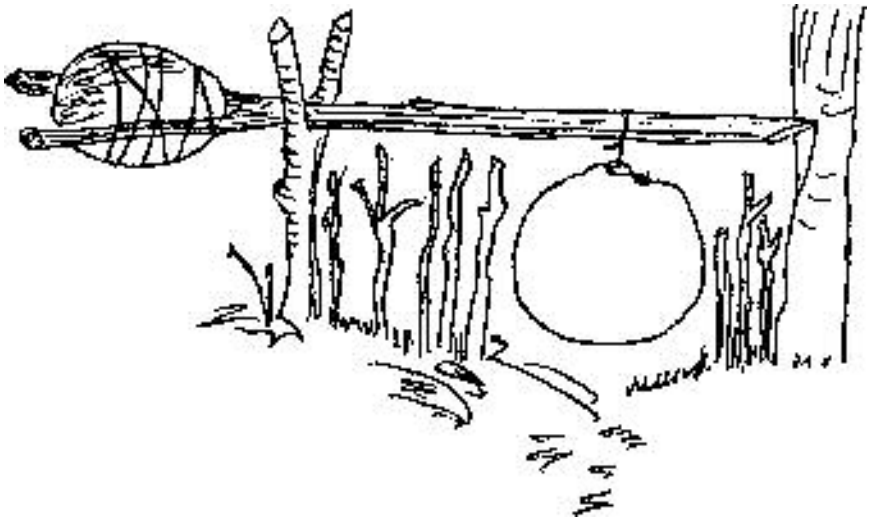
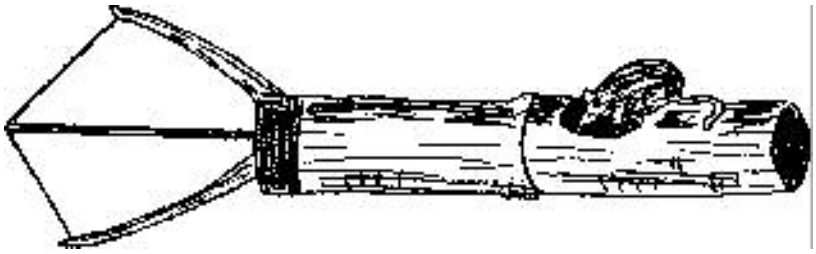


Fig. 2. Rock-fall snare uses weight of rock to hang the prey in the air out of reach of predators.



Fig, 3. Bow-and-arrow type setgun [Urang (India) rat trap],

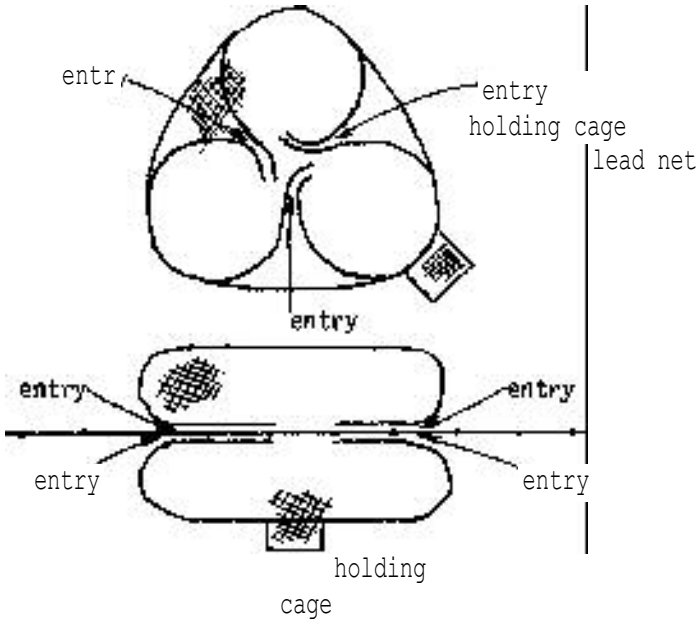


Fig. *k*. Cage traps for waterfowl showing two styles of the lily-pad design.

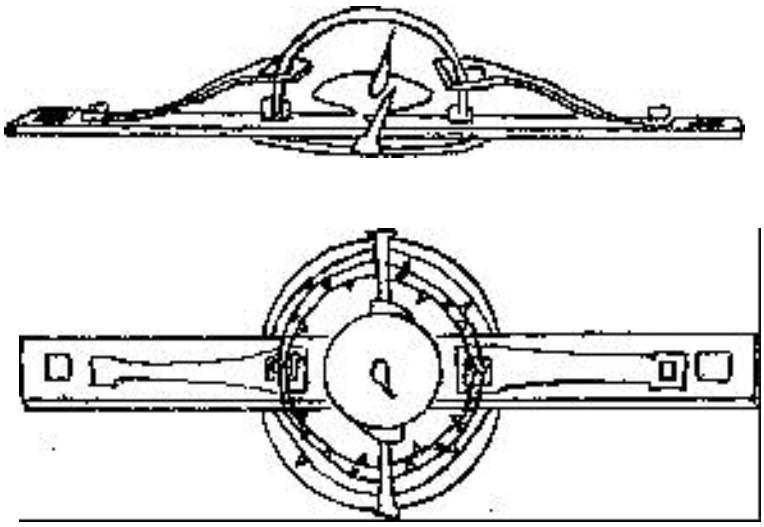


Fig. 5. First known spring trap designed by Mascall (1590), \ bottom

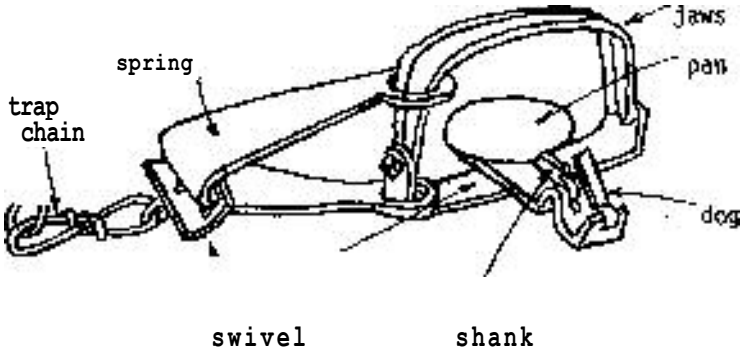


Fig. 6. Parts of a modern steel spring trap.

juice is also spread on leaves along trails so that when a tiger steps on them they stick to his feet. In attempting to remove the leaves, he eventually gets his eyes so gummed up that he becomes incapacitated and can be easily killed (Burton, 1918). However, most use of sticky materials today is confined to rat and mouse glues.

PRINCIPLES OF TRAPPING

Inasmuch as behavioral and physical patterns vary so much, it is impossible in one short paper to discuss in detail the techniques used in trapping any variety of animal life. However, there are certain principles that apply to most situations. Basically, the professional trapper has to know the habits and personality quirks of the animals he wishes to trap. The trappers that opened the West were successful with their crude tools because they knew their quarry well. This thorough understanding of animal habits is needed if one is to become a good trapper.

Next is the proper selection of a size and design of trap that will best fit the circumstances and the target species. One does not expect to hold a wolf in a mouse trap. On the other hand, trapping success drops off when one relies on rat traps to catch small mice. Also, it is difficult to trap a sparrow in a darkened trap which may offer an attractive refuge to a skunk.

A consideration that is often overlooked and in turn has hampered the trapper by developing a poor public relations image is the humaneness of his trapping methods. It is difficult to be really humane because the basic purpose of trapping is to hold a frightened and desperate animal against its will. However, modifications in methods of running trap lines, emphasis on quicker killing traps and redesign of some traps are needed if trapping is not to be further restricted. Some examples of the proper trend are the use of fish net in preference to poultry mesh on the tops of bird traps (Kutz, 1945) and tranquilizer tabs on coyote steel traps (Baiser, 1965).

Another basic factor is the mechanical condition of the trap. It is wasted effort to make a trap set with an inoperative trap, but this rather obvious mistake is often made. The proper placement of a trap is probably the most important consideration. Trapping success is directly proportional to a trapper's ability to place traps where animals will stumble on them during their normal wanderings rather than relying on any miracle bait to draw them great distances.

Bait is often of secondary importance to proper placement. However, its proper use can greatly enhance trap success. While attractive foods and/or odors are probably the most useful baits, there are several others that can be used. Odor, incidentally, does not have to be confined to the odor of food but can relate to sex or territorial expression. Decoys, particularly with gregarious bird species, are sometimes effective baits. The young of the species (Edwards, 1961), live females (Rogers, 1964) or even stuffed females (Norris, Beule and Studholme, 1940), another competitive species (Dykstra, 1968), plywood bird shapes (Loftin, I960) or a mirror image (Tanner and Bowles, 1948) have been used to lure birds into a trap. Shelter may under certain circumstances be more of an attractant than food. For example, I have had good success in cold storages and nutmeat processing plants by tying cotton needed for nesting to a trap and being able to compete with the abundant food supplies available to the mice. Sound, light and color as attractants have received more attention from the entomologists than the vertebrate zoologists. Sound is being used to lure male prairie chickens on their booming grounds (Silvy and Robel, 1967). The use of light to lure birds from a night roost into a large funnel trap has been mentioned above. Night lighting has also been used to catch waterfowl and nocturnal animals (Cummings and Hewitt, 19664). While most mammals are not responsive to color hues [they may respond to intensity], corn dyed different colors to simulate native fruit has been used to trap grouse (Gullion, 1961). The drawing power of curiosity is, of course, dependent upon the psychological makeup of the individual and the species. It is generally triggered by one or more of the above baits, but it does play a part in determining trap success whether it be a raccoon drawn to shiny metal on a bait pan or a bobcat to a fluttering feather.

Effective concealment is of utmost importance when one is working on a clever species like the coyote. On the other end of the scale, it is wasted effort in most commensal rodent situations. The final factor—numbers--is self-evident. The more traps in the trapline, the better the chances of catching an individual or a larger number of animals, even though the take per trap may be lower. It is generally best to trap a given area intensively (dependent upon the size of the target species' home range, of course) than to attempt to scantily encompass a wide area.

Trapping wild animals remains a challenge that modern technology has failed to meet as yet.

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