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THE PROCESS AND SOCIOCULTURAL SIGNIFICANCE OF GOPHER TRAPPING IN A MODERN YUCATEC MAYA COMMUNITY

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ABSTRACT.– Pre-Hispanic and early Spanish texts document animal trapping in the Maya area. Snare traps are used by the modern Maya of the Yucatán peninsula to capture hispid pocket gophers (*Orthogeomys hispidus* Le Conte) for human consumption. We describe gopher trapping in the Maya community of Naranjal, Quintana Roo, México, and provide detailed information on the selection of suitable trap locations, construction of traditional snare traps, and preparation of gophers for consumption. An anthropological analysis of trapping behavior reveals new insights into the social function of gopher trapping and the role of trappers in their community.

Key Words: Maya, Quintana Roo, Mexico, gopher, snare trap

RESUMEN.– El atrapar animales en la región Maya está documentado en textos prehispánicos así como coloniales tempranos. Las trampas de lazada son utilizadas por los Mayas contemporaneos de la península de Yucatán para capturar tuzas (*Orthogeomys hispidus* Le Conte) para consumo. Observaciones etnográficas del atrapado de tuzas en la comunidad Maya de Naranjal, Quintana Roo, México, proveén información detallada sobre la selección de lugares apropiados para las trampas, la construcción de trampas tradicionales, y la preparación de las tuzas para consumo. Un análisis antropológico del comportamiento asociado con el atrapar provée nuevos entendimientos sobre la función social del atrapar tuzas y el papel de los atrapadores en su comunidad.

RÉSUMÉ.–Le piègeage d'animaux dans la région Maya est documenté dans de nombreux textes pré-hispaniques ainsi que dans de plus récents. Aujourd'hui, les collets sont utilisés par les Mayas du Yucatán pour capturer les taupes de poche (*Orthogeomys hispidus* Le Conte) à des fins alimentaires. Les observations ethnographiques du piégreage de taupes dans la communauté Maya du Naranjal, Quintana Roo, México, fournissent des informations détaillées sur les locations de piégeage les plus aptes, sur le façonnage des collets traditionnels, et sur la préparation alimentaire des taupes. Une analyse anthropologique sur cette coutume de piègeage và révèler de nouveaux aperçus sur la fonction sociale du piègeage de taupes et le rôle de ces trappeurs dans leur communauté.

INTRODUCTION

Prehistoric and Historic Use of Animal Traps in the Maya Region.– Generic trapping activities among the Maya have been known for some time. Two of the oldest documented examples are provided by the indigenous, pre-Hispanic Maya document the codex *Tro-Cortesianus* or *Madrid Codex* (Anders 1967) and Fry Diego de Landa's sixteenth century *Relación de las Cosas de Yucatan*. As the early twentieth century Maya scholar Alfred Tozzer correctly pointed out (Tozzer and Allen 1910, Tozzer 1941), the *Tro-Cortesianus* is rife with examples of animal trapping (Figure 1). Indeed, the *Tro-Cortesianus* clearly demonstrates that the pre-contact Maya took both large and small game with traps (see also José Luis Franco C 1960, J. Salvador Flores 1984). Moreover, the *Tro-Cortesianus* provides strong evidence that the pre-contact Maya trapped animals using a technology that is still employed to this day. For example, the bent position evinced by all of the trap trees shown in the *Tro-Cortesianus*, in combination with the use of a snaring rope or cord, implies that the trees functioned as trap springs (see Figure 1).

Compared to the Maya document, Landa's descriptions of the snare traps are anything but detailed. In fact, they are mentioned only twice and then only in passing. He wrote:

> [t]hese tribes [the Maya] lived so peaceably that they had no quarrels nor did they make use of arms, nor bows even for hunting, although today they are excellent archers, and they only used traps and snares, by means of which they took a great deal of game [Tozzer 1941:31]

and

> [b]esides the fish whose abode is the water...there are many iguanas...There are so many of them that they help every one in Lent, and the Indians fish for them with slip knots fastened up in the trees and in their holes [Tozzer 1941:191].

In addition to snare traps, Landa also mentioned gophers; "[t]here are many very pretty squirrels, and moles and weasels and mice" (Tozzer 1941:205). In his translation, Tozzer noted that "[t]here are no moles in this country, but the early Spaniards so designated an animal now called *tuza*, in Maya *ba*. It is a pocket-gopher..." (Tozzer 1941:205).

Landa's reference to snare traps and gophers is important since his documentation provides a link between the pre-Hispanic and contemporary Maya. The practice of using snare traps to catch other animals and the fact that gophers are rarely seen above ground, suggests that Landa observed gophers only after they were trapped. Therefore it seems apparent that trapping gophers with snare traps has been continually practiced by the Maya at least since the Late Postclassic era (AD 1250-1521).

Archaeologically, evidence for the prehistoric practice of gopher trapping is almost entirely lacking; given the organic nature of the trap and the small size of gophers, this comes as no surprise. H. E. D. Pollock's and Clayton E. Ray's investigations at Mayapan, Yucatán, México do, however, allow some hypothesizing in

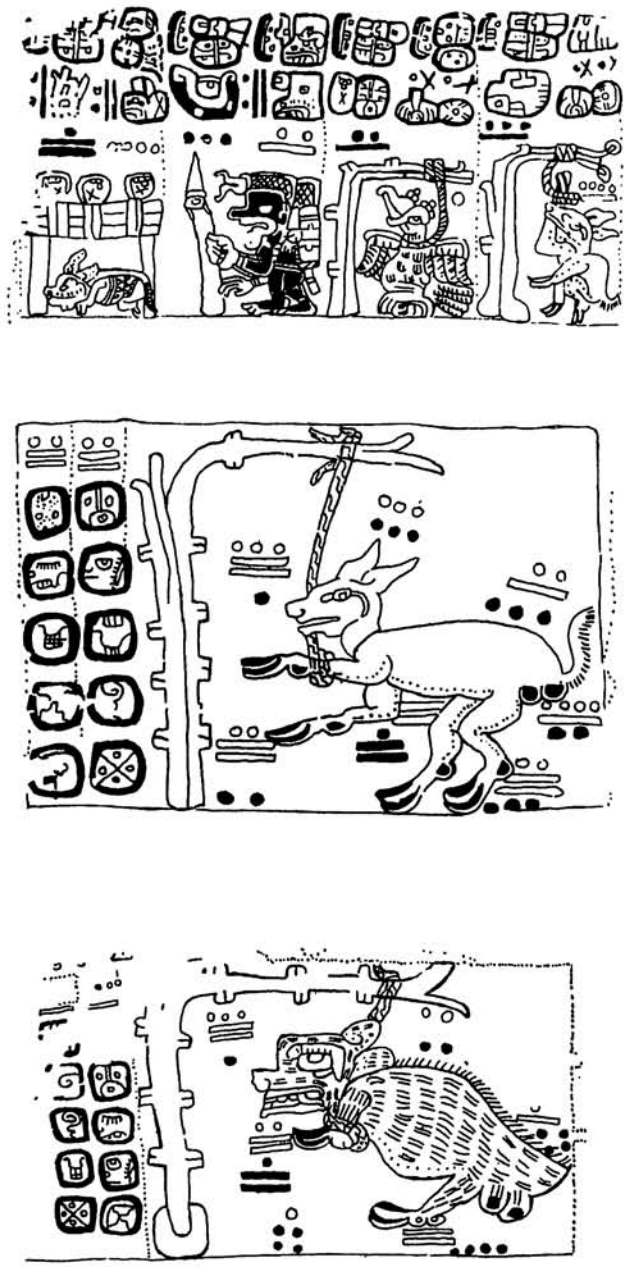

FIGURE 1.– Pre-Hispanic Maya Depictions of Animal Trapping. (A) Page XCIa of the *Tro-Cortesianus*. Villacorta and Villacorta (1976:407) suggest that the animals depicted here (from left to right) include a peccary, a turkey, and a paca (after Villacorta and Villacorta 1976:406). (B) Page XLVb of the *Tro-Cortesianus*. Deer caught in a snare trap (after Villacorta and Villacorta 1976:314). (C) Page XLIXa of the *Tro-Cortesianus*. Villacorta and Villacorta (1976:323) suggest that the animal depicted here might be a peccary or a tapir (after Villacorta and Villacorta 1976:322).

this regard. In their report, Pollock and Ray (1957:633-656) reported that gopher remains were recovered from two separate tomb contexts. In the first, a gopher tooth was recovered from a tomb that contained four human (three adult, one infant) burials as well as the remains of three opossums. In the second, a gopher jaw was recovered from a tomb that contained the remains of two humans (both adult). Although we agree with Pollock and Ray's pessimistic assessments of the evidentiary value of the tooth and jaw (the tombs were not sealed contexts), their presence nevertheless suggests that gophers might have been trapped, killed, and then placed into burial contexts by the inhabitants of that Postclassic northern Yucatán Maya capital.

Contemporary Research.– Contemporary gopher trapping in México is described by José Luis Franco C. in his 1960 article *Una trampa nueva del Valle de México*. His article describes and provides a sketch of a trap that embedded a multi-pronged spear into a gopher when the gopher attempted to plug the entrance of its burrow. A similar type of trap was mentioned but not described by Walker *et al.* (1964) in *Mammals of the World*.

Contemporary Maya gopher trapping was described by botanist J. Salvador Flores in his 1984 book *Algunas Formas de Caza y Pesca Usadas en Mesoamerica*. This important work provides illustrations and detailed descriptions of various Mesoamerican hunting and fishing techniques. Flores describes two types of gopher traps. The first (this trap is similar to the trap mentioned above by Franco 1960 and Walker *et al.* 1964) functioned by embedding a spike into a gopher after it had chewed through a root that held the spike in a ready position (Flores 1984: Figura 25A, 25B). The second functioned by trapping a gopher in a snare connected to a small tree or sapling (Flores 1984: Figura 25).

In his book *Tzeltal Folk Zoology* (1977), Eugene S. Hunn provides an impressive inventory of animal traps used by this highland Maya group. His informative descriptions, which include native trapping terminology, are accompanied by detailed illustrations. Two gopher snare traps, which are quite similar to one another, are described by Hunn (ibid:114, Figure 4.14) and appear to be functionally related to both the latter trap mentioned by Flores and the traps we observed in Naranjal. While both of the traps Hunn describes make use of a spring (such as a small tree or pole), a snare, and a tension line, the first trap is set into motion after the gopher disturbs a stick to which the tension line is attached. The second snare trap is activated when the gopher eats through a baited tension line.

Flores' and Hunn's informative examples of Maya gopher snare traps provide a foundation from which certain aspects of regional traps and trapping behavior can be explored. In order to provide a more detailed account of the entire process of gopher trapping, as well as interpret the significance of this activity, we followed a group of boys as they went about their trapping routine. In this study, we will describe how gopher snare traps are made, what materials are used, how the gopher meal is prepared, and the sociocultural context of trapping in a modern Yucatec Maya community.

GOPHER TRAPPING IN THE MODERN MAYA COMMUNITY OF NARANJAL

The Community of Naranjal, Quintana Roo, México.– Naranjal (Figure 2) is a small Yucatec Maya village located 10 km to the south-southeast of Ignacio Zaragosa, a town situated on Carreterra Principal 180, the main toll-free road linking the east and west coasts of the Yucatán Peninsula (Fedick and Taube 1995). Established sometime in the early 1950's, the modern community sits atop an ancient Maya center known as Tumben-Naranjal. Naranjal is surrounded by a dense semi-deciduous tropical forest abundant in both secondary and primary growth species. Naranjal is also bordered by a 500 ha wetland (Fedick and Taube 1995). The people of Naranjal are subsistence farmers, who supplement their livelihoods by harvest-

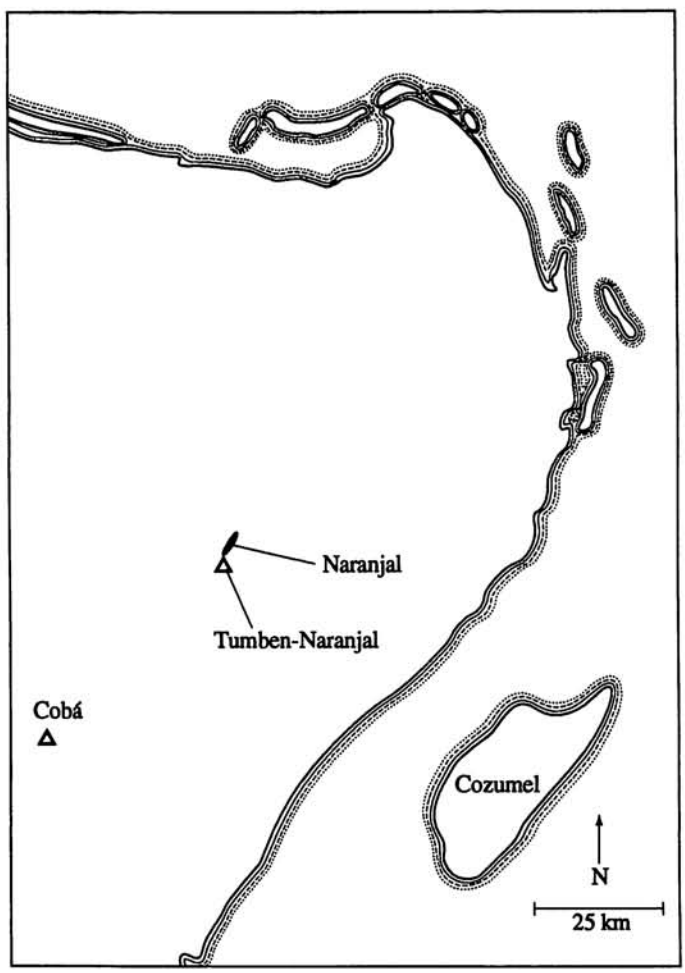

FIGURE 2.– The Northeastern Portion of the Yucatán Peninsula and the Location of Naranjal.

ing and selling honey and producing charcoal for sale at local and regional markets. The community consists of fourteen families (Goldsmith-Jilote 1995) and is in every way a contemporarily traditional Yucatec Maya village; steeped in tradition, Naranjal embraces and struggles with modernization. Ellen Kintz captured this convoluted dichotomy when she wrote about the village of Cobá, 40 km to the southeast of Naranjal:

> [t]he village of 10 years ago was very traditional: the new village is much changed. The frontier village has been pulled into the modern world. New roads have been constructed, potable water systems have been developed, and electricity has reached the village. Still, the Maya of today retain many of their traditions, they remember many of their legends, and they continue to pass their history from the old generation to the new [Kintz 1990:xi].

The Hispid Pocket Gopher.– Gophers are solitary creatures that spend most of their time underground in their burrow systems which "are often extensive and usually marked by a series of mounds of earth" (Hall 1981:454). Gophers are not commonly seen above ground and, when spotted there, they quickly retreat. Although there is current debate concerning the correct number of genera and species that appear in México (David Hafner, written communication 1997),[1] only one species appears in the northern portions of the Yucatán Peninsula; *'tusa'* ***ba*** (*Orthogeomys hispidus* Le Conte) (Wilson and Reeder 1993). *Orthogeomys hispidus* (Figure 3), a member of subgenus *Heterogeomys* Merriam, is commonly referred to as the Hispid Pocket Gopher, and characterized by the following criteria:

> [the] [h]ead and body length is 100-350 mm and the tail length is 50-140 mm. The weightYis 500-800 grams. The fur tends to be coarse and scanty but may be softer and denser at higher elevations. The upper parts are usually dark brown or black, and the underparts are somewhat palerYThe upper incisors usually have a single median groove located toward the inner edge of the tooth, but a lingual groove also is sometimes present [Nowak 1991:622].

> Their burrows are usually shallowYand the tunnelsYreach 100 mm in diameterYMost underground activity occur[s] during daylight, and individual home range [is] about 200-270 sq metersYThe diet includes many kinds of vegetable matter [Nowak 1991:622-623].

Orthogeomys hispidus are formidable garden and crop pests and have the capacity to cause significant damage (Nowak 1991). To control this problem Nowak (1991) and Walker *et al.* (1964) report that professional *'tuceros'*, adult male gopher hunters who are paid per tail, are sometimes hired by a community or family to catch and kill the pests. In these cases "traps, snares, spears, and slingshots" are used (Nowak 1991:623). As one sees below, however, this is not the case at Naranjal.

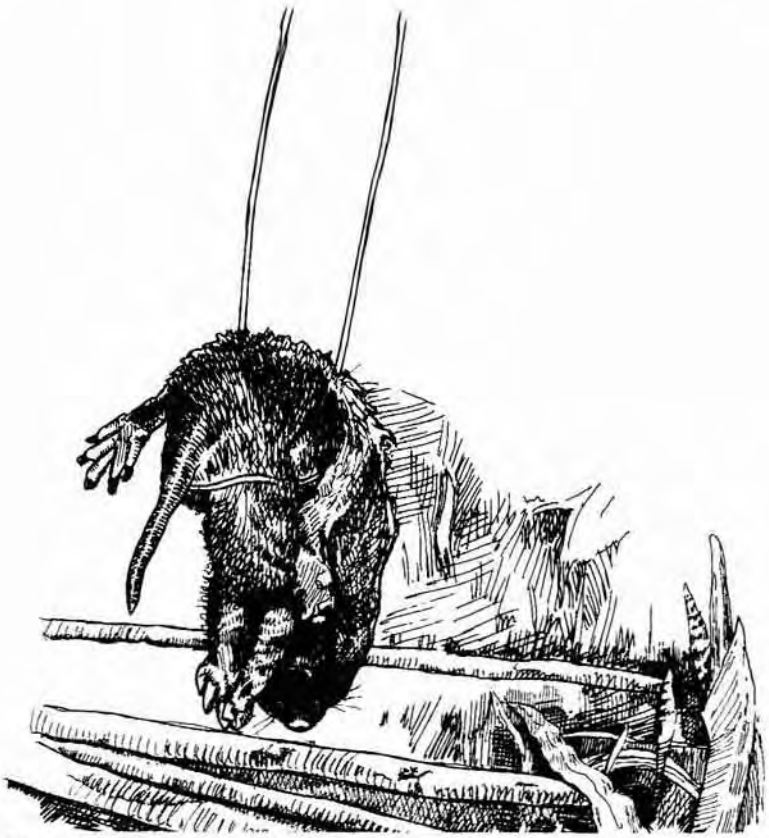

FIGURE 3.– Hispid Pocket Gopher (*Orthogeomys hispidus* Le Conte) being Removed from Snare Trap. Note the wire snare about its mid-section (drawing by Charles Bouscaren).

The Anthropology of Gopher Trapping at Naranjal.– Gopher trapping is an activity that is limited to the young boys, ages seven to sixteen, of the Naranjal community. Sometimes, a very young boy, the younger brother of one of the trappers, will accompany the trapping expedition. However, they do not participate in trap construction. Only once did we observe a grown man returning from the forest with a gopher.

Gopher trapping has a number of intertwined functions. Most significantly, it introduces and incorporates the boys into the familial and communal realm; further, it affords them the opportunity to expand their knowledge of the natural world (Kintz 1990). Spending long periods of time in the forest and *milpa*, learning and understanding the forest, hunting, "contribut[ing] the bulk of the economic resources [to the family]" (Kintz 1990:30), and supervising the culinary preparation of their game are all male tasks. The trapping activity, as mundane as it appears, teaches the boys that they are productive members of their families and community. In addition, the boys form important bonds during these outings, bonds that will influence their future "social success, economic success, and/or political success" (Kintz 1990:14).

Practically speaking, most of the young boys who trap gophers are too young to help their fathers and older brothers in the family *milpa*. Therefore, the trapping activity gets the boys out of the house, out of the way of their mothers, and into the forest, where they engage in an activity that benefits themselves, their family, and their community. Even though gopher trapping may be boys' work, it is nevertheless important. The gophers that the boys trap are sometimes the only meat that a family receives for several days.

DESCRIPTION OF THE GOPHER TRAPPING PROCESS

Locating Active Burrows.– During the summer months (June, July, and August) and very early in the morning (approximately two to three hours before the sun rises) small groups of four to six boys leave Naranjal for the forest that surrounds the fringes of their community. Gopher trapping does occur during other parts of the year, but the summer months see the most activity. Armed with small flashlights, they venture into the secondary forest surrounding Naranjal to search for areas of gopher activity. Much joking, wrestling, and boyhood antics occur during these outings and the boys truly revel in their roles as trappers of a valuable food source. These trapping expeditions, which are typically three to four hours in duration and involve treks of up to two kilometers, are completed when the boys return to Naranjal with the gophers that were snared by the traps set during the previous morning.

When the boys are satisfied that they are in a portion of the forest or *milpa* that evinces the telltale signs of gopher activity, the group splits into small crews comprised of one or two boys and the trapping activity begins.

Once a boy happens upon an area of gopher activity, he must determine which of the many soil mounds represents the most recent burrowing activity. This is vital since placing a trap at the entrance to an abandoned or old burrow decreases the chances of snaring a rodent. The boy takes a large handful of soil from each of the many mounds and judges which has the soil with the most moisture; the freshest mound has the highest level of soil moisture. Customarily, the boy locates the appropriate mound within one to two minutes.

When the boy is satisfied with his choice, he denudes the mound area of the surrounding forest scrub with his steel machete. Then, and with his hands, he removes the mound and the soil that blocks the burrow's entrance and the deeper portions, the first 40 to 50 cm, of the burrow (this soil is referred to as the "plug" in the biological literature [Hall 1981:455]). This latter distance roughly equals the length of the trapper's forearm and, beyond this distance, the burrow is free of soil.

Constructing the Trap.– After the burrow is opened, the boy selects what will be the trap's spring, a young sapling (Figure 4A). A suitable sapling must possess several criteria: (1) it must be a living or freshly cut ***puuts' mukuy*** (*Xylosma anisophyllum* Standley);[2] dead sections of ***puuts' mukuy*** or other types of saplings are not appropriate as they lack the appropriate flexibility and strength, *'la fuerza,'* that the ***puuts' mukuy*** possess; (2) the sapling must be located or placed behind the entrance to the burrow– this placement is necessary since the spring sapling must

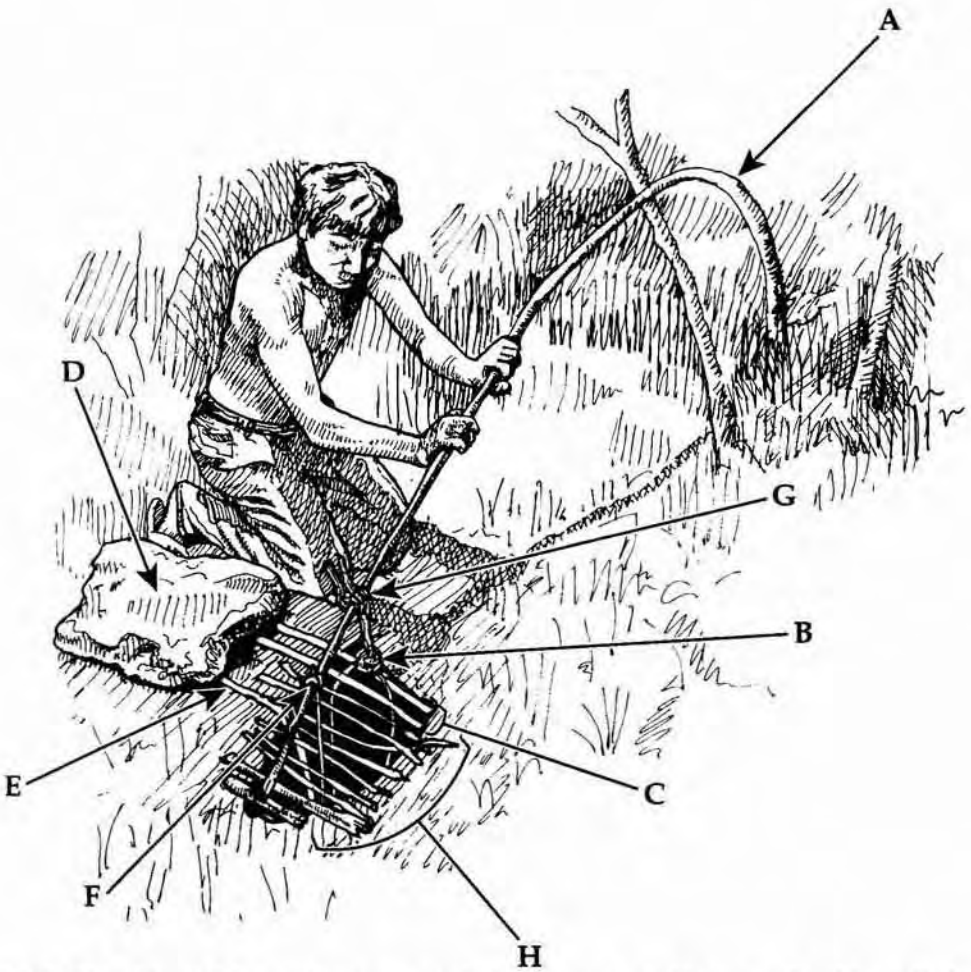

FIGURE 4.– View of the gopher snare trap before a covering of leaves and soil is applied. The fundamental components of the trap include: (A) the spring sapling, (B) the bark strip attached to the wire snare, (C) the two parallel shafts which are embedded into the sidewall and flank the snare, (D) The stone used to anchor the free ends of the parallel shafts and the bait vine shaft, (E) the shaft that anchors the bait vine to the floor of the borrow, (F) the bait vine attached to the spring sapling, and (G) the bark strip attached to the spring sapling. From this perspective, the gopher will approach the trap from the upper right-hand corner of the illustration (drawing by Charles Bouscaren).

pull the gopher in a direction parallel to and back from the entrance to the burrow; (3) the trunk should be equal in size to the circle the boy can make by pinching, into a circular shape, the tips of his thumb and forefinger– a sapling of this girth has the flexibility needed to withstand long periods of time under tension yet spring into a vertical position when it is released from this tension; and (4) it must be long enough to extend a distance equal to 60 cm beyond the entrance to the burrow– this is necessary as the remaining parts of the trap are tied to this distal

portion of the spring sapling. Finding a sapling such as the one described is generally not a problem as the secondary growth forest around Naranjal abounds with the appropriate flora.

Once a boy chooses a ***puuts' mukuy***, he clears away the scrub that lies between the sapling and the entrance to the burrow and then strips (the leaves and branches) and crops the sapling to the appropriate length. If a ***puuts' mukuy*** sapling is not growing in the appropriate position behind the entrance to the burrow, the boy locates and fells a ***puuts' mukuy*** sapling and manually inserts it into the ground in the appropriate location. He then anchors and immobilizes the base of the spring sapling by placing large rocks against and around its lower portion. He then gives the sapling a flexibility and strength test; in repeated events, it is bent over the entrance to the burrow, pinned to the ground, and then released in order to assess if the sapling is suitable. If the sapling withstands this treatment, the boy continues with the construction process.

Next, the boy locates and fells another ***puuts' mukuy*** sapling with a diameter equal to that of the spring sapling. He cuts the felled sapling into a 2.0 m length, smashes it against a rock with the handle of his machete, and, in one continuous 2.0 m segment, he strips it of its bark. He then ties the 2.0 m strip of bark to a premade snare. Contemporarily, this snare is made of wire. We asked if a sturdy vine or flexible twig could be substituted. The reply was, "we use wire."

The wire snare has been pre-shaped by the boy into an elongated oval with a major axis of approximately 30 cm and a minor axis of approximately 10 cm. The ends of the snare have been wound together tightly to ensure that the snare does not pull apart when directional force is applied. The boy ties the strip of bark that he removed from the ***puuts' mukuy*** sapling to the snare where its ends have been wound together (Figure 4B).

Once this step is accomplished, the boy then turns his attention back to the entrance of the burrow. He cleans the area of roots and compost, and slightly widens the exposed entrance to a depth equal to the length of his forearm. The boy then extends the entrance to the burrow, in a forward direction, a distance of approximately 50 to 60 cm. This provides the boy with a working area.

Next, the boy looks for yet another ***puuts' mukuy*** sapling with a diameter equal to that of the previous two. He fells the sapling and cuts it into two equal 1.2 m lengths. He then spikes one end of each of the two lengths with his machete. Then, at the junction to the rodent's entrance and the boy's artificially constructed frontal expansion, he places the spiked end of one of the shafts approximately 7 cm below the ground's surface and, at a slightly downward angle, inserts the shaft a distance of approximately 23 cm into the burrow's sidewall. He then bends the free end of the shaft to the ground to ascertain if the embedded end remains anchored when the free end is under force. If it remains embedded, he inserts the second shaft into the sidewall slightly divergent and adjacent to the first shaft. He then tests the second shaft as he did the first. The boy leaves a small gap (equal to three to four times the diameter of the wire used for the snare) between the two shafts (Figure 4C). When this step is completed, the shafts are (1) roughly parallel to one another as they leave the burrow sidewall, (2) perpendicular to the burrow, and (3) separated by a distance equal to 5 cm at their free ends. The boy anchors

their free ends to the ground by placing a large, 10 to 15 kg rock on top of them (Figure 4D).

Next, the boy inserts the metal snare through the gap he left between the two parallel shafts. The part of the snare that is tied to the length of ***puuts' mukuy*** bark and one third to one half of the wire snare is left protruding above the two parallel shafts. The boy then form fits the snare to the burrow's shape, pushes it a short distance into the burrow's walls and floor, and disguises it with a thin covering of the soil he had removed from the interior of the burrow. He then places the long strip of ***puuts' mukuy*** bark where it is out of his way and continues with the construction process.

The precise location for the bait to be placed in front of the wire snare is carefully selected. This placement ensures that the body of the gopher will be bisected by the wire when the trap is triggered. The boy determines this distance by placing a dead twig (he uses whatever dead forest vegetation happens to be within his reach) in his hand, palm up, and breaking it into a length which equals the distance between the outside edge of the first knuckle of his thumb and the outside edge of the opposite side of his palm. We were informed that this distance equals one half of a gopher. This twig is called *'la medida'* or 'the measure.' Much care is taken when the measure is made and the boy might break several twigs until one with the appropriate length is made. When he is satisfied that he has a twig with the correct length, he lies it on the burrow floor perpendicular to and in front of the snare. It is imperative that one end of the measure abuts the snare since the bait will be placed in front of the snare a distance equal to the length of the measure.

The crux of this trap is the bait; it lures the gopher into the wire snare and once it has been consumed, sets the spring sapling into motion (the bait vine is shown attached to the spring in Figure 4F). Its use is ingenious. Cognizant that the gopher is fond of eating a particular vine ***x-tabentun*** (*Turbina corymbosa* (L.) Raf.) (in its absence ***ek' kix*** *Cydista aff. potosina* [K. Schum & Loes] Loes is used), the boy uses it to lure the gopher to the snare area. The ***x-tabentun*** vine is found clinging to the trees and bushes of the forest and the boy quickly locates and then cuts a 1.2 m length from the tangle. He then fells another ***puuts' mukuy*** sapling with his machete and makes another spiked shaft. This shaft will function as the anchor that moors the spring sapling, vis-à-vis the bait vine (***x-tabentun***), in its bowed and ready position over the entrance to the burrow.

In its natural state, the vine is an unsuitable bait. It has a bark that, according to the trappers, the gopher finds unappealing. To make the vine appetizing, the boy twists it twice through its length. This stresses and cracks the bark thus exposing the succulent, inner woody parts of the vine. The twisting, as compared to stripping, is employed since the vine's strength is compromised when its bark is removed. Then, in a multi-step process, the boy attaches the vine to the spiked end of the anchor shaft: first, the boy holds in place one end of the vine approximately 18 cm from the spiked end of the shaft; second, and keeping the vine aligned along the long axis of the shaft, the boy strings the vine towards the spiked end of the shaft; third, the boy bends the vine under the spiked end of the shaft; and fourth, he winds the vine back up the shaft thus clamping the aligned portion of

the vine to the shaft. The wound vine is tightly spaced near the spiked end of the shaft but becomes widely spaced as it approaches, and then passes, the end of the vine which was first set in place 18 cm from the spiked end of the shaft. Seven to nine wrappings of the vine around the shaft ensures that the vine is properly clamped.

Once the vine is wrapped around the shaft, the boy inserts the spiked end of the shaft into the floor of the burrow at the end of the measure. The boy then discards the measure. The anchor shaft is inserted 30 cm into the ground to ensure that the vine is well secured by it. The boy snaps, but does not break, the anchor shaft where it bisects the plane created by the surface of the ground. He then places the shaft's free end under the rock that was placed over the two slightly divergent shafts (Figure 4E). He then unwinds the loose end of the vine from the upper portions of the anchor shaft so that as it penetrates the burrow floor, it does not contact the anchor shaft. This leaves a 76 cm length of the vine protruding from the burrow floor. The boy then checks the anchor by tugging slightly on the vine. If the vine withstands the tugging, the boy continues with the construction.

Next, the boy pulls the spring sapling towards the ground and moors it into a ready position with the vine (Figure 4F). He then gingerly releases the sapling to establish that the vine, and its subterranean anchor, can withstand the tension of the tethered sapling. If the sapling remains moored, the boy ties the free end of the ***puuts' mukuy*** bark strip to the spring sapling a short distance from where the ***x-tabentun*** vine was tied (Figure 4G). The slack is removed from the strip before it is tied to the sapling but not so much that it tugs on the wire snare when it is connected, vis-à-vis the bark strip, to the sapling. The trap is now set. However, the boy still needs to disguise the trap's presence. This he does by restoring the burrow's natural appearance.

The boy first locates and then cuts down a ***k'o'och*** (*Cecropia pelata* L.) sapling and cuts it into small 30 cm sections. This species, rather than the ***puuts' mukuy***, is employed since it is lighter and easier to cut than the latter. Once the sections are cut, the boy places them perpendicular to and over the top of his artificially constructed frontal expansion (Figure 4H). The small ***k'o'och*** sections are closely spaced and have an average distance of approximately 2 cm between them. (Refer to Figure 4 for an illustration of a trap at this stage of completion). Over the sections of ***k'o'och***, the boy places large, freshly picked leaves from ***taas ta'abil*** (*Guettarda combsii* Urban). The leaves function as a roof and they also keep soil from falling into the trap. On top of the leaves a liberal pile of soil and forest debris is applied and modeled until the burrow is completely buried and a mound shape is obtained. The trap is now complete and the boy leaves it until the early morning hours of the next day.

With his first trap set, the boy then searches the jungle floor for other areas of gopher activity. By the time the boys are ready to return to Naranjal, each crew will have set an average of two to four traps and have checked the traps they had set the previous day. This completes the description of how the trap is made; what follows is a description of how the trap works.

How the Trap Works.– When the gopher attempts to leave its burrow that night, it

encounters the ***x-tabentun*** vine at the entrance to its burrow. The gopher advances upon the vine and begins to eat it. Since the bait vine was placed a distance equal to one half of the gopher's length beyond the wire snare, the wire snare is poised directly below the midsection of the gopher as it consumes the vine. When the vine is chewed past its breaking point by the gopher, the spring sapling is released from tension and it rapidly whips into an upright position; recall that the wire snare was not anchored to the burrow floor; it was only disguised. As the sapling rights itself, the gopher is jerked upwards and backwards by the wire snare as the potential energy of the spring sapling is released and acts upon the ensnared rodent. This upwards and backwards movement is abruptly halted when the gopher encounters the two parallel shafts which lie perpendicular to the burrow and now, its spinal column. Upon hitting these shafts, the gopher's back is broken (thus paralyzing the rodent) and it becomes trapped under the shafts by the tension produced by the spring sapling that continues to pull on the ensnared gopher via the strip of ***puuts' mukuy*** bark. Here the gopher remains, often alive, under ground, safe from predators or scavengers, until the boy returns the next morning to check his trap. (See Figure 3 for an illustration of the gopher being removed from the trap). As a whole, the group typically returns to Naranjal with four to six gophers.

Preparation and Consumption of the Gopher.-- Directly after the gopher is removed from the trap and brought home, it is prepared for consumption by the boy or boys who trapped it and shared with the family. First, a small ***piib*** or cooking pit (measuring 20 cm by 30 cm wide, and 10 cm deep) is dug in the backyard of their house. Though the females of Naranjal are often in charge of food preparation and cooking activities, the males typically construct and control the ***piib***. These outdoor pit ovens are traditionally used for cooking pork, chicken, bread, and as we document here, gophers. After the shallow ***piib*** is excavated, it is filled with a few coals from the household hearth. Next, the boy locates and collects twigs from the surrounding area. Although the boy is not interested in species, he is interested in selecting twigs that are somewhat dry yet moist enough to smolder once they are placed atop hot coals. This moisture is necessary since the twigs must smolder and burn to coal, not ash. The twigs are laid closely together over the coals and small stones are placed atop the smoldering wood. As the ***piib*** heats, the gopher is placed whole on top of the rocks and turned frequently. This process burns-off the rodent's hair. When it is apparent that the hair has been sufficiently charred, the gopher is removed from the stones and carefully shaved with a small knife. The gopher is then placed on the rocks once again, removed, and then rinsed in a bucket of water. This latter process removes any remaining burnt hairs or debris.

When the twigs in the ***piib*** have been reduced to coals, the gopher is placed directly atop the coals while the hot rocks are pushed around and over it. The ***piib*** is then covered with freshly picked ***piixoy***[3] leaves and then soil. The gopher is then left to cook in the ***piib*** for 15 to 20 minutes.

After the gopher is removed from the ***piib*** it is placed whole on a plate and then brought inside to the boy's mother. The mother opens the gopher's chest cavity and removes its innards. These are then placed in a wooden bowl containing lime juice and mashed with a pestle into a dark green paste. (According to David Hafner [personal communication 1997], the gopher's innards contain veg-

etable matter that provides additional nutrients for the consumer of the gopher). Small amounts of this intestinal paste are scooped-up with a corn tortilla and eaten with habanero chile ***ik*** (*Capsicum frutescens* L.) and salt. The meat of the gopher is pulled off with portions of corn tortilla and is also consumed with ***ik*** and salt. According to Rissolo, the meat is tender and mild in flavor and more enjoyable to eat than the intestinal paste. As much of the gopher is consumed as possible, including the skin and the fleshy parts of the skull but not the brain. Little is left after the meal except for the vertebrae and long bones. The remains are tossed into the backyard and quickly dispatched by the numerous scavenging dogs typical in Naranjal.

CONCLUSION

The purpose of gopher trapping in the community of Naranjal is essentially two-fold. Fundamentally, it provides a valuable food resource for the trapper's family, but perhaps most importantly, it functions as a productive mode of socialization for boys in the community. During our outings, we observed how the trapping process encourages the boys to learn, improve, apply, and teach specific skills. These include the ability to navigate in the forest, the ability to locate, identify, and describe the characteristics of various plants, and the ability to function as a member of a team. It may seem that the small size of a gopher does not justify the amount of time necessary to construct a trap, monitor the trap site, and prepare the catch. However, the social and practical skills that the boys acquire in the process prepare them for the more economically, politically, and socially significant roles that they are sure to assume as young men.

Finally, our observations of the process of gopher trapping in Naranjal reveal the degree of continuity between the type of animal traps illustrated and described in ancient Maya texts and historic accounts, and those currently used in contemporary Maya communities. Details of trap construction and trapping behavior contribute to our knowledge and understanding of the living Maya and their forest. Moreover, this example of Maya trapping technology illustrates the "remarkable consistency and conservatism" of not only "Maya ritual over time" but of seemingly mundane aspects of Maya daily life (Love 1989:336).

NOTES

[1] According to Hafner, there are six genera and 14 species of gopher in Mexico. This is in contrast to Wilson and Reeder (1993) who state that there are five genera and 18 species.

[2] We recorded the Yucatec Maya plant names in the field and they appear here in the modern orthography (see Barrera Vásquez, ed. 1980). Although the Maya plant names included in this study were verified by *Lista Florística y Sinonimia Maya* (Sosa *et al.* 1985), it is important to note that they are subject to regional variation. Plant specimens were collected by the authors in the field and identified by Dr. Arturo Gómez-Pompa and *M. en C.* Luz Maria Ortega at the Reserva Ecologica El Éden office in Cancun, Quintana Roo, Mexico. No voucher specimens were collected.

[3]The authors were not able to collect a sample of the plant used to cover the ***piib***. The Maya informed the authors that it was ***piixoy***, which is possibly *Guazuma ulmifolia* Lam.

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