

Kawáyan mantág. Bambusa spinosa Blm. (prehistoric introduction)

Páhiw. Schizostachyum lumampao (Blco.) Merr.

Local name: *ístw* (Pol.-Tag., and Pol.-Dum.) for *Dinochloa scandens* (Blm.) O. Ktze.

OTHER TYPES OF FISH TRAPS

With the exception of the *anság*, fish traps are not commonly found among the Pinatubo pygmies. However, I have seen or obtained information of a few other varieties of fish, shrimp, and eel traps used by the Negritos. The *dhag* is similar in construction and function to the *anság*, but in place of the platform, a large bottle-shaped basket, the *taún*, is used to trap the fish. Weirs, the *búboh*, for smaller fish and shrimps are fairly common, and among the Bataan Negritos and the Negritos of southern Zambales are extensively utilized. These tubular baskets have a large, cone-shaped mouth with sharpened bamboo spikes pointing, and constricting, inwards. These flexible spikes allow the shrimp and small fish to enter, but prevent a return passage. The *hiid* (*stid* in Tagalog) is a small, portable fish corral set up in quiet water and baited with large numbers of termite larva. This latter trap though commonly used by the lowland Sambal and Tagalog, is only rarely seen among the Pinatubo Negritos.

All of the fish traps utilized by the Pinatubo Negritos are found among other Philippine peoples and they embody no unique elements.

TREES WITH FRUITS EATEN BY BIRDS, AND SPECIFICALLY SITES FOR A "BIRD BLIND," THE *ÁBONG*¹²¹

A common and striking technique employed by the Pinatubo pygmies in hunting birds is to build a small tree house, a "bird blind," in a tree having ripe fruit which is attracting large numbers of birds.¹²² This *ábong* is just large enough to cover the hunter and is made, with the exception of the floor, of plam leaves (*cf.*, list of palms on pp. 263-265). The platform, called specifically the *báag*, is constructed of any handy branches. The Negrito hunter hides in the blind with a sizable

¹²¹ *Ábóng*, "house," (Egn.); *afóng*, "house," (Bon.); *abóng*, "hut," (Ilk.).

¹²² The following doves and pigeons are commonly shot from the bird blinds; the *buwábo* and *awóko* (*Ducula* spp.), the *puyáwan* (*Treron* spp.), the *kukúlok* or *kulók-kulók* (*Phapitreron* sp.), the *bató-bató* or *koleróng* (*Geopelia s. striata*). In addition, the male and female Tarsicte Hornbill

supply of bird arrows and shoots the various birds as they alight to feed. Live bird decoys in cages, as well as voice-calls, are sometimes used as additional means of attracting the birds.

Two specific types of ladders are used in reaching the blinds. The *patakhán* consists of one upright, usually a thick walled bamboo or a long straight limb, lashed at intervals, with handy vines, to the bole of the tree. The lashings form the rungs. From the upper end of the *patakhán* the Negritos reach the tree house by either climbing along the branches or by employing another type of ladder, the *kampád*. This latter type of climbing device is invariably made of a small, but strong, whole bamboo, the *kilit*, *Dinorchloa luconiae* (Munro.) Merr. with a short piece of wood tied at one end, at a sharp angle, so as to form a hook. The hunter merely hooks the *kampád* on a higher limb in the same tree, or even in a nearby tree, and then scampers up and across to the blind. I have seen Negritos, utilizing this same technique in obtaining bird eggs, begin at the base of one tree, and finally reach the bird nest in a third and much larger tree. It was impossible to climb the third tree directly, because it had no low hanging limbs, and the trunk was large and smooth.¹¹³

During specific months, the following trees are important sites for bird blinds, and it is interesting to note that three of the trees—*amúngIn*, *daydáy*, and *panamhiyIn*—are conceptually important to the Negritos primarily because of this ecological relationship of bird-tree-man:

AmúngIn. *Pygeum vulgare* (Koehne) Merr.
(tree) Local name: *amugan* (Tag.)

(*Penelopides p. manillae*) called *dayaw*, and *pulaw* respectively, the parakeet (*Loriculus p. philipensis*) called *koahiki*, the Guava Bulbul (*Pycnonotus* spp.) called *paloká'*, the oriole (*Oriolus chinensis*) called *kulyáwan*, the Philippine bulbul (*Microcelis g. gularis*) called *tamhik*, and hawks, such as the *lúwin* (*Haliastur indicus intermedius*), are also shot from the blinds.

¹¹³ Two other types of ladders utilized in obtaining young birds and eggs from steep banks and cliffs should also be mentioned. The *payidáng* is made from a slim trunk of a tree. The branches are chopped off, but short stubs left to form rungs. This type of ladder is merely leaned against the cliff. The *skawán* is a type of ladder which has been formed by the natural protrusion of large roots on the face of banks and cliffs. The generic term for all types of ladders is *adán* (*ardn*, Bot.-Sbl., and *hagdán*, Tag.).

Anggagal'. *Gomphandra cumingii* (Miers.) F.-Vill.

Baliti. *Ficus nuda* Miq.

Bubúlon. *Ficus caulocarpa* (Miq.) Miq.

Dayday. *Dysoxylum arborescens* (Blm.) Miq.

Dysoxylum altissimum Merr.

Panamhiyn. *Ficus* sp.

Bird blinds are also built on the ground beneath the following trees which are too small to support a small tree house (the method of using this "ground-blind" is the same as the "tree-blind"):

AymIt. *Ficus minahassae* (Teysm. and De Vr.) Miq.

Bakálih. *Celastrus paniculata* Willd.

(small tree) No related terms found in Merrill.

Páan-labúyo. *Pavetta barnesii* Elm.

Psychotria luçoniensis (Cham. and Schlecht.) F.-Vill.

pangkól. *Aralia bipinnata* Blco.

Tagapháng. *Gymnosporia spinosa* (Blco.) Merr. and Rolfe.

(small tree) Local name: tagapháng (Bot.-Sbl.)

Bird blinds are also built on the ground when the fruits of the wild bananas are used for bait, particularly the fruit of the *amúkaw*, *Musa errans*. The pygmies gather a large number of the bananas and hang them in a cleared space near the blind. The various species of birds attempting to feed on the bait are shot with the bow and arrow.

The pakóykoy.—The most unusual technique employed by the Pinatubo pygmies in hunting birds from a blind is with the *pakóykoy*, a type of artificial bait manipulated by hand. The bait is made of either the red pith of the plant *tambák*, *Alipina haenkei* Presl or of a dead, banded, poisonous snake, the *ilingan*, *Hemibungarus calligaster* Wiegmann.¹¹⁴

¹¹⁴ Though the Negrito is not aware of the fact, the species of the snakes (*Hemibungarus* spp.) which they use for artificial bait are deadly poisonous. Despite the pygmies' tremendous knowledge of their environment, they frequently confuse poisonous with non-poisonous snakes. This is, in part, due to the fact that the Negritos are afraid of, and avoid, snakes, and are not aware of the specific function of fangs. Many forms of personal charms are carried as a protection against snakes. The python, called *biklát*, is an exception, for it is a highly prized food.

The hunter hides in a blind, which has been placed near a river or pond or on the edge of a clearing, and then with one hand he wiggles the artificial bait, or the dead snake, just outside of the blind. When a hawk dives to seize the bait (usually the *bulalak*, *Spilornis cheela holospilus*, commonly known as the "serpent eagle"), the hunter catches it with his free hand.

TREES WITH FRUITS AND FLOWERS EATEN BY BATS, AND SITES FOR HUNTING
WITH THE "BAT-STICK"

Bats, particularly the large fruit bats popularly called the "flying foxes," are highly prized food.¹¹⁵ During the months when these bats are plentiful, the middle of September until the middle of January, they are caught by means of the *pálloh*. This "bat-stick" is made of a bamboo pole, about four meters long, with the upper end covered with short lengths of spiny rattan sticking at about a 35 degree angle from the pole. The very spiny rattan, *láwin-naudit*, *Calamus* sp., is good for this purpose. The spiny rattan covers the end of the pole for approximately 70 cm.

A crude, tripod-like platform, called the *kákat*, is built high in a tree so that the hunter stands above the crown of the tree, and can freely fan the air with the bat-stick as the bats approach to feed. When the bat is struck, it is impaled on the spiny rattan. Frequently, the platforms are constructed in lanes between trees. Despite the fact that this activity is pursued at night, the *pálloh* is an effective tool, and large numbers of the fruit bats are obtained.

The following trees are feeding grounds for the bats, and some are conceptually important to the Negritos only because of this relationship:

Trees with fruits eaten by bats:

Kayáhan. *Ficus variegata* Blm.

Gatll. *Ficus pubinervis* Blm.

¹¹⁵ The general term for the large, fruit feeding bats is *panilaw* (small types of bats *káging*). However, the Negrito specifically designate at least six bats which are caught with the *pálloh*; namely, the *pugót*, *manibé*, *ulándi*, *mamayápa* (from *payápa*, the name of a large, wild fig tree), *kapiptit*, and the *mangangkáng*. In addition to their value as food, the burned hair of the fruit bats is rubbed on the neck when the Negrito has a cold, or the jaws are worn as a necklace for the same purpose.

Malapáo. *Ficus payapa* Blco.
Tubóy. *Ficus nota* (Blco.) Merr.
Itlphán. *Ficus barnesii* Merr.

Trees with flowers sipped by bats:

Lapláp. *Erythrina* sp.
Nató. *Palaquium* sp.
Pálak-pálak. *Palaquium* sp.

Bats are also hunted during nights, when there is moonlight, in the stands of the wild bananas. The undergrowth is cleared from around a few of the bananas bearing fruit so that the hunter, hiding nearby, can see the fruit. Bats attempting to feed on the fruit are shot using the bow and the "trident" types of arrows. This specific method of hunting bats is called *háwang*.

HUNTING BEES

The great delicacy of the Pinatubo pygmies is honey, *pulót*; moreover, the *tálo*, wax, is useful in many ways, and the young bees, the *ámok*, as well as the pollen found in the hives, the *latá*, are edible. The young bees are placed in a green banana leaf and roasted in the fire. The *latá* is eaten raw.

Following the rainy season when the trees begin to bloom, the pygmies watch carefully for the swarms of the honey bees¹⁶ (the generic term for "bees" is *panílan*), and systematically hunt for their hives. Even the flight of the Bee Buzzard, called the *mamanílan* (from *panílan*), is followed, and according to lowland informants who are amazed at the Negritos' ability to find hives, the pygmies can even locate the direction of the flight of the bees by "watching for their waste matter on stones."

When a young hive is located, its location is established by making a slash on the bole of the tree, and by inserting a stick pointing to the hive. This sign of first discovery and ownership, which is never violated by another Negrito, is called *báyá'*. The bees are driven away from the hives by employing a smoking torch, the *banót*, which is made of green leaves with dried strips of bamboo in the center all tied on a stick. The activity of smoking the bees is known as *puáyán* (from the word-base, *puáy*). A bark cradle, called the *lák*,

¹⁶ The pygmies recognize five different "honey bees"; the *lákot* and *bopóng* which are found in holes in trees, the *panílan* and *abílan* which have true combs, and the *dáyog* which has a ground nest.

and made from the bark of *malakápa*, *Mallotus* sp., is used to retrieve the hive when it is high in a tree. The honey is carried in bamboo tubes.

The most interesting and amusing of the Negrito's dances, the *pinapanílan*, is a wild pantomime of the whole act of hunting and smoking bees. During the course of this tempestuous dance, the hunter watches for the signs of the swarms, follows and finds the hive, prepares the smoking torch, climbs the tree, is attacked by the bees during which they invariably get inside of his loin cloth, and finally retrieves the hive and delights in the taste of the honey. The entire activity is portrayed in perfect pantomime while the dancer follows a violent, "pandango," guitar tune.

PLANTS HAVING STICKY SAPS AND FRUITS, AND USED TO
TRAP BIRDS AND ANIMALS

The great variety of hunting techniques employed by the Pinatubo Negrito in catching birds and small animals is strikingly pointed out by the use of the following two plants:

Anúling. *Pisonia aculeata* Linn.

The very sticky fruit of this woody vine is scattered in large numbers in the trails of the wild chickens, civets, and other birds, such as the quail. A bird or small animal passing along the trail, and touching the fruit, will become so covered with the sticky mass that it cannot fly or move. Even monkeys can become so covered with the sticky fruit that they cannot escape. Merrill notes that *Pisonia umbellifera* (Forst.) Seem., is *anúling* in Tinggian, Tagbanuwa, Tagalog, Bikol, and Panay Bisaya.

Kalánat. *Artocarpus blancoi* (Elm.) Merr.

The trunk of this tree yields a milky latex. This latex is placed in a pot and heated until it becomes a thick, gummy mass. This gummy material, which is specifically called *gaxít* by the Pinatubo pygmies, is then smeared on a long bamboo pole. The pole is stuck in a bamboo tube which has been secured high in a tree bearing fruit, so that the pole extends above the crown of the tree, and offers a likely spot for the birds to alight.

This method is usually employed in catching the common parakeet called *koahíhi*. *Loriculus p. philippensis*, although other birds may also be trapped.¹¹⁷ Near the gummed pole, which we have noted protrudes above the crown of the tree,

¹¹⁷ *kolásisi* (Tag.); *konási* (Bot.-Sbl.)

the Negritos place a number of live parakeet decoys in cages. As a flock of parakeets approach, having been attracted by the fruit and the decoys, they land on the conveniently placed pole, and are stuck fast. The hunter hiding nearby climbs the tree and obtains the birds by merely removing the pole from the holder. Using this technique, it is not unusual for the pygmies to catch even thirty birds at one time. The parakeets are eaten, kept as pets, or traded and sold in the lowlands.

This technique of trapping birds is also employed by the provincial Tagalog, and other Philippine people. Merrill notes that *Artocarpus rubrovenia* Warb., is called *kakilot* by the Tagalog. No other cognates were found.

PLANTS USED IN THE CONSTRUCTIONS OF OTHER BIRD AND ANIMAL TRAPS

The Pinatubo pygmies still utilize a sizable number of traps employing spring-poles, and slip-nooses,¹¹⁸ to catch the wild chickens, civets, monitor lizards, and monkeys. In addition, spring-poles are utilized to drive an arrow, or blunt spear, in the "belatic" types of traps.

The trimmed branches of the following trees, which have a marked spring, are used specifically for the *batoó*, that is, the "spring-pole":

Balinawdaw. *Otophora fruticosa* (Roxb.) Blm.

Banatoh. *Mallotus philippensis* (Lam.) Muell.-Arg.

Biblíh. *Guioa koelreuteria* (Blco.) Merr.

(small tree) No cognates were found.

Huláng. *Micromelum inodorum* (Blco.) Tanaka

(bush) No cognates were found.

Magdadangláh. *Allophylus* sp.

(small tree) This descriptive local name means "like the *dangláh* (*Vitex negundo*)."

Malapatingín. *Tarennia incerta* Koord. and Val.

(small tree) This descriptive local name means "like the *pating* (*Leuca manillensis*)."

The láwan.—This small trap, embodying a spring pole and slip-noose, is very extensively utilized by the Pinatubo pygmies (see figure 2). The basic element of the trap is a curved frame (a)¹¹⁹ always made of the whole stem of the vine,

¹¹⁸ The plants from which cordages are made for the slip-nooses, etc., are enumerated and discussed in the next section of this monograph.

¹¹⁹ The letters (a), (b), (c), etc., refer to parts of the trap which are labeled on each text figure, and are employed to facilitate the

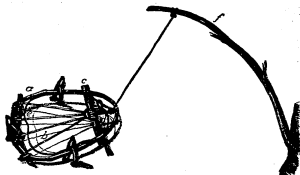


FIG. 2. The Ilocano trap.

pángititun, *Parameria barbata* (Blm.) K. Schum., or *Parameria laurigata* (A. Juss.) Mold. Four cords (b) made of the fern-vine, *nito'-mantúg*, *Lygodium circinnatum* (Burm.) Sw., or of split rattan, run from one edge of the frame, and are secured to the trigger-bar (c) near the opposite side.¹²⁰ The trigger (d), called *plhiw*, wedged between the trigger-bar and the sides of the frame, is tensioned by the force of the spring pole. The slip-noose (e), attached to the trigger and the spring-pole, is spread over the frame, and bait placed in the center. The lightest pressure against the cords, or the trigger-bar, releases the trigger, and the slip-noose flies into the air, through the force of the spring-pole (f), closing around the legs or body of the game.

This trap is designed for wild chickens and monitor lizards, but it may catch civets, and even monkeys.¹²¹ It is usually placed in the trails of the wild chickens, and small brush fences, the *atát*, are placed on both sides to funnel the game into the trap.

descriptions.

¹²⁰ The trigger-bar of the Ilocano trap has a specific name; *talambíles*.

¹²¹ The single species of monkey (*Macaca irus*) found in the Pinatubo area is called by four generic names: *bakólaw*, *éénggo*, *sangléd*, and *bakí'*. In addition, many terms are employed to describe the life cycle, etc., of the monkeys. A newly-born monkey is called *kio'*, the young monkeys, *akpás* (*akpát*, "climb," in Tag.), monkeys in their prime, *manaligtúg*, an old male, *butdkal*, an old female, *tumbáyí*, and their cries, *ákkláh*.

The patikding.—This trap is similar in function, and somewhat in construction, to the *lawán*, but employs a camouflaged platform (a) made of split bamboo instead of the curved vine frame (see figure 3). The trigger (b) is held in place

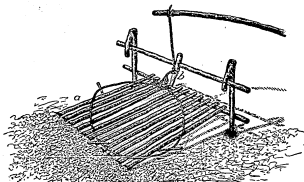


FIG. 3. The *patikding* trap.

by the weight of the platform, plus the tension of the spring-pole. With any pressure against the platform, the trigger is released, and the slip-noose spread over the platform closed. This same trap with only minor variations is found among the Ipági-Egóngot of Quezon Province, and is used for catching wild chickens and civets. The Egóngot call it *paséklaw*.

The bintáy.—This type of trap for small birds is commonly constructed by the Pinatubo pygmies and is widely distributed throughout the Philippines (see figure 4). This trap consists of a bamboo stake, called the *tikdán*, a bamboo bow, trigger, slip-noose, and a bait. The stake (a) is stuck vertically in the ground, and the upper end is sharpened to a pin point so that the birds cannot land there. A hole is made through the stake near the top through which the end of the slip-noose passes to the bow. As is shown in the text figure, the bow is merely inserted through the stake near the ground, and provides the force for closing the slip-noose. The slip-noose (b) is spread over the trigger (c), and the trigger is tightly wedged in the hole through which the cord passes to the bow (d). This keeps the bow taut and also provides a support for spreading

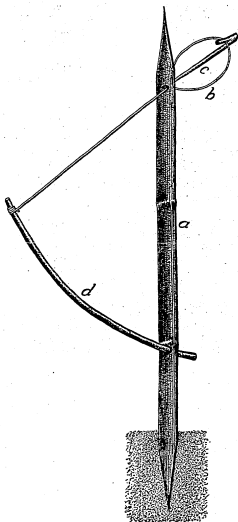


FIG. 4. The bintáy trap.

the slip-noose. A bait of charcoal or crickets is hung on the stake above the trigger and noose. When a bird, attracted to the bait, lands on the trigger, it is dislodged, and the slip-noose closes around the leg(s) of the bird, pinning it against the stake.

If this type of trap is placed in a tree, as is frequently done, it is called *paratáy*. Varieties of this trap are used by the provincial Tagalog who call it *bitag*.

The kálot-uwiha.—This deer trap, hence *uwiha*,¹²² is made by simply propping a large slip-noose made of a whole, trimmed rattan in a deer trail, so that, the large noose, the *kálot*, is neck high. The end of this rattan "rope" is attached to a small movable log placed nearby. The noosed deer is forced to drag the log in order to escape, and the log eventually catches in the undergrowth, trapping the animal. *Lubnáy*, *Calamus* sp., is said to be the best rattan for this "rope," and a piece about the thickness of the index finger makes a strong and efficient noose.

The tábing.—The two civets which are common in the Pinatubo area, the *muháng* (*Viverra tangahunga*), the *lamidan* (*Paradoxurus*), as well as the feral domesticated cat, the *dagáw*, are caught with this trap.¹²³ The trap is set in the center of a log which has been purposely placed, or which has accidentally fallen, across a stream. A small, strong slip-noose is held upright, at right angles to the log, by two bamboo stakes. These stakes are inserted in shallow holes made in the log. Splits made in the stakes hold the noose loosely, as well as upright. Additional stakes are placed on both sides of the log to channel the animals into the noose. The end of the slip-noose is tied to a fairly long, slim branch which is laid

¹²² Many terms are also utilized by the pygmies to describe the life cycle, etc., of the single species of deer (*Cervus philippinus*) found in the Pinatubo area. The female deer is called *laman*, a young male with short spikes, *tádu* (*turá* in Bot.-Sbl.), an old male with many horns, *lungdyan* (from *lungáy*, "horn"), a male deer with horns just beginning to branch, *kalatáy*, one with horns that are shedding, *namaknít*, and one with broken horns, *namungil*. In addition, very large deer, male or female, are called *báleg*. The nesting places of the deer are called *kalopkóp*, and their sounds, *biya'*.

¹²³ An old male or female civet is called *kuninat*, and the kittens, *oymók*. On the contrary, the kittens of domesticated cats are called *áning*. The civets are a highly prized food among all of the Pinatubo Negrito groups, but only particular individuals will eat the feral domesticated cat.

lengthwise on the log. When the civet or cat is caught in the noose, this branch called the *batangán*, will drag at right angles to the flight of the animal, and as in the case of the *kálot-máha*, will quickly trap it.

The hallóng.—Varieties of this wild chicken trap are found among many Philippine ethnic groups. A tamed wild rooster, or a domesticated rooster, is staked as a decoy, the *pangáti'*, in the center of a large number of slip-nooses.¹²⁴ These beautifully woven nooses are attached to a base-cord which is, in turn, staked to the ground, and which runs in a square on three sides of the decoy. The fourth side of the trap is formed by the base of a large tree, or fallen log, which thus forces the wild rooster to enter and fight the decoy bird from one of the sides protected by the numerous upright nooses. The decoy bird is staked in the center of the trap by a cord to its leg, called specifically *híll*, which prevents the decoy from also becoming entangled in the numerous slip-nooses.

The specimens of this trap in the Philippine National Museum which were collected among the Zambales Negritos are all made of the rattan, *láwin-naudit*, *Calamus* sp. The cord to the leg of the decoy is made of either *kuliyát*, *Gnetum indicum* (Lour.) Merr., or *dakínót*, *Pipturus arborescens* (Link.) C. B. Rob.

Using this trap is as much a sport as a food-getting activity, and each Negrito trapper very carefully selects his decoy rooster by counting the scales on its legs. Specific numbers of scales are said to be favorable for particular individuals. Men in the surrounding lowland groups select fighting cocks in the same manner. In a following section of this manuscript (Plants possessing supernatural power), it will be seen that the decoy birds are also charmed by the use of plants so that they will attract many wild cocks. The use of this trap requires infinite patience, and according to the Negritos considerable privation, as it is necessary for the hunter to hide near his trap in order to protect his decoy, as well as to capture the wild rooster when it is noosed.

The báth.—Three varieties of the "belatic" type of trap have been used by the Pinatubo Negritos, but today they are rare in most areas because of their danger to hunters and travelers.

¹²⁴ *Híll* (silo' in Tag.) is the generic term for all types of nooses. This term also defines a simple device used for enticing quail. A fine slip-noose made of horse hair is tied to a small bamboo stake. Many of these are placed in the trails of the quail which are numerous in the grasslands. Bait is scattered nearby.

Furthermore, the extensive use of guns at present has helped to displace this trapping device. The typical *báih* consists of an arrow or short spear which is driven across the path of a wild pig or deer, when the animal has struck a trip-cord. Tremendous force is imparted to the shaft by a horizontally bent spring-pole (cf., the list of plants above which are used for spring-poles). This type of trap, as used by the Zambales Negritos, was thoroughly discussed and illustrated by W. A. Reed,¹²⁵ and it is unnecessary to redescribe it in detail herein.

Reed's description is of the common "belatic"¹²⁶ which uses an arrow made of a small straight limb, and a large sharp projectile point fashioned from bamboo, usually, from the introduced *bo'-mantúg*, *Gigantochloa levis* (Blco.) Merr. This specific type of projectile point is called *talápa*, and is illustrated in Plate 8, fig. 6. In addition, the Pinatubo pygmies employ two other varieties of this trap called the *babádog*, and the *tugálbo*, which were not mentioned by Reed. The former is identical in construction and use to the *báih*, but drives a stout, blunt pole which either stuns the animal or breaks its legs. The *tugálbo*, or *tugálbo-ha-tagáy*, is an ordinary bow and arrow, the latter with a large metal point, rigged in the same way.

The Pinatubo Negritos living in the Kawayan area, and the Aburlin Pagans (see Map), still utilize the ordinary "belatic" rather extensively, but carefully mark the location of each trap with pointers, the *tádaw* (*túraw*, Bot-Sbl., and *kal-ák*, Aburlin). The latter are merely upright sticks split to hold one or two short lengths of bamboo with the sharpened ends pointing toward the trap. These groups also employ a measuring device, the *hukál*, for obtaining the exact height of the trip-cord, and shaft, so that it will properly strike the animal. Among the Aburlin, these are attractively carved from a hard wood with height marks for the pigs and deer. One that I saw at Bakóng (see Map), was made from *bálung-áyta*, *Diospyros* sp., and had a realistically carved head of the Tarictic Hornbill on the upper end.

The *tugálbo-ha-líta'*.—Pitfalls are still utilized by some of the deeper Negrito groups. The pits are placed in the trails

¹²⁵ Reed, W. A. Negritos of Zambales. Manila (1904) 45-46, fig. 1.

¹²⁶ Among the Pinatubo Negritos, the term *balátik* defines that part of the shaft where the bamboo projectile point and the wooden pole are joined, but among many other ethnic groups, words similar to this one are the generic terms for this type of trap.

of the wild pigs and deer and are dug about two meters deep and square. At least fifty sharpened bamboo spikes, called specifically the *ludón*, are placed in the bottom of the pit, and these impale the animal when it crashes through the cover. The cover, *tagmik*, is made of reeds, grasses, and leaves, and is built so as to blend perfectly with the trail. Brush fences are built on both sides of the pit in order to channel the pigs and deer into the trap.

The parukid.¹²⁷—Impaling stakes of sharpened bamboo are a simple, but, if cleverly placed, deadly device for pigs and deer. Many are placed in the animal trails at the bottom of slopes. Pigs or deer rushing down the incline are impaled on the slanting spikes. If there are a number of trails in a particular area, all but the one leading to the impaling stakes, or to a pitfall, will be blocked off by brush barriers, the *abúh*.

During the course of my field work in the Philippines among non-Negrito groups, I have frequently encountered all of the traps described above except the *láván*, and the *tábing*.

PLANTS USED FOR CORDAGE

The slip-nooses, noted in the above discussion, as well as small string and larger twine for innumerable other purposes, are all made from the bast, or outer bark, of specific plants. Smaller cordage, called in general *yábil*, is made by merely rolling the strands of the bast or outer bark against the naked thigh. Larger cords are made by twisting together two or more of the rolled strings. Rope is made, as we have noted, of trimmed whole stems of rattan,¹²⁸ or by twisting together

¹²⁷ The Polillo Dumagat use bamboo and the dried stem of *búnbún*, *Donax cannaeformis* (Forst. f.) K. Schum., for impaling stakes. These spikes are called *pasóh* (pasólo, Tag.).

¹²⁸ The Pinatubo pygmies recognize nineteen different rattans, which are called in general *láwi*, and each has a specific, or locally coined, name. These are: *lábáy*, source of water, edible shoots, slip-nooses, etc.; *alimbábo*, source of water, edible shoots; *limádan*, gathered and traded into the lowlands where it is shipped to Manila, and used for making furniture; *manugítóng* (from *bugtóng*, "one and only," as the plant grows singly), furniture, and the bitter shoots eaten as a medicine for colds; *hahókóng*, split for tying, edible shoots; *bullat*, tying, edible shoots; *dirri*, tying; *malikóban* or *malaúban*, tying, and for the "outer wrapping" of arrows; *dít-ín*, whole stem for rope, split for tying, and edible shoots; *malantó*, a brittle rattan having no use; *babáyán*, rope, and tying; *láván-nandit*, traps, baskets, and cradles; *piké*, projectile points, bolo handles; *gamitók*, tying, material for baskets; *tayiktik*, for horsewhips among the Sambal; *kulakling*, rope and tying; *hamóy*, tying; and *manginámat*, traded into the lowlands where it is made into furniture. Unfortunately, only a few of these rattans were found in fruit and/or flower, and collected.

three lengths of split, green rattan or bamboo. Ropes, the *pidino*, used to tender the water buffalos are also made from the whole stem of the vine, *miranda*, *Clematis* sp.

All of the following plants used for cordage by the Pinatubo pygmies, except *malagayáman* and *úlip*, are described in Brown's, Philippine fiber plants,¹²⁹ and their usage is apparently widespread:

Bágo-bágo or **balibágo**. *Helicteres hirsuta* Lour.

(shrub) These two plant names are found in many Philippine dialects.

Bawilng. *Commersonia bartramia* (Linn.) Merr.

(small tree) Local names: *bágo* (Tag.); *bágun* (Klg.); *baliturug* (P.-Bis.).

Dangóy. *Grewia multiflora* Juss.

(small tree) Local names: *dangli* (Tag.); *dangli* (Pamp., Ilk., Tag.); *danglóg* (Ibn.).

Ingwál. *Flagellaria indica* Linn.

(vine) Local names: *ingwal* (Ilk.); *ínwal* (Pang.)

Lapnít. *Sterculia* sp.

(tree) Local names: *lapnít* (Ilk.) for *Sterculia* spp., and *lapnít* (Ibn.) for *S. ceraméa* R. Br.

Maguguhí or **magkakatin-áy**. *Thespesia lampas* (Cav.) Dalz. and Gibs.

(shrub) There are descriptive local plant names.

Malagayáman. *Pothos hermaphroditus* (Blco.) Merr.

(vine) This plant name means "like the centipede (*gayáman*)," and crudely describes the shape of the leaf. *Columella trifolia* (Linn.) Merr., is also called by this same name, but has no use.

Úlip. *Cypholophus moluccanus* (Blm.) Miq.

Yabóh. *Abroma augusta* (Linn.) Linn.

(shrub) Local name: *anabó* (Ibn., Ilk., Tag., Bis.)

Today, thread, called *úbag* or *koy-ót*, is obtained from the lowland stores, or merely removed from old clothing, but in the past it was made from the covering of the banana stalk. This sheathing was soaked in muddy water for at least one week and was then stripped and rolled against the thigh.

¹²⁹ Brown, W. H. Philippine fiber plants, minor products of Philippine forest. Manila, Bureau of Forestry, Bull. 1 (1920).

When metal needles, *kadáyum*, are not available, sharpened bamboo slivers are used as awls.

KNOTS

The Pinatubo pygmies systematically employ a sizable variety of knots and splices in everyday activities, and the different types have specific or descriptive local names, as well as the general term *buknó*¹³⁰ for "knot," and *húblóng* for "splice." Furthermore, the different knots have specific functions. The *tumpáng* (see fig. 5-d), for example, is always used for tying the two ends of the cordage forming the head-straps used by the women in carrying pack-baskets. The knot of the bow string is identical throughout the Zambales Range. Specific knots are used in the construction of the traps (see figs. 2 and 3), for as the pygmies state: "If the proper knots are not used, the trap will catch no animal."

Beliefs are encountered concerning the use of knots; for example, when a woman is pregnant, neither she nor her husband should make cordage, step on cordage, or tie knots, for any of these actions might provoke a difficult childbirth.

In addition to the knots illustrated in figure 5, the following knots are commonly employed by the pygmies; the clove hitch, the slipknot or *haglítót*, Englishman's tie, the overhand knot or *buknó*, and the square knot or *haklót*. Three types of splices are also encountered; the short splice, the Matthew Walker Stopper or *buknón-bakéro*, the "cowboy's knot," and the eye splice called *gamá* or *matá* (the latter term also meaning eye).¹³¹

PLANTS ASSOCIATED WITH EDIBLE LARVA, PUPA, AND INSECTS

During specific months, the Pinatubo pygmies add to their diet a number of adult insects, as well as their larva and pupa. The Negritos know the specific plant host of each insect, pupa, or larva, and the time of the year when these can be gathered in sufficient quantities to be of food value. The larva and pupa are boiled in the bamboo cooking tubes, and the adult insects are roasted or boiled.

¹³⁰ *Butnó* (D.-Neg.), *butnó* (Bot.-Sbl.), *butnól* (Pamp.), *bohól* (Tag.)

¹³¹ The English equivalents, with illustrations, for the knots employed by the Pinatubo Negritos can be found in Webster's New International Dictionary of the English Language (1946) 1372.

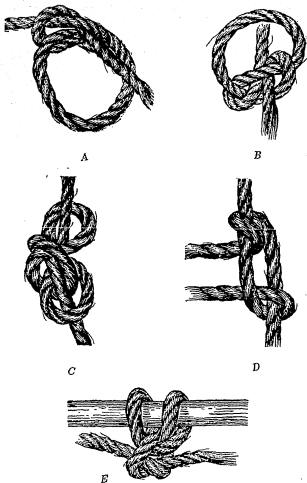


FIG. 5. Knots

(a) *buknón-dawól*, (b) *ginagáng*, (c) *kilíkíl*, (d) *tumpáng*.

The important insect foods,¹²² and their plant hosts, are set forth below:

Üang. *Rhynchophorus* sp. The adult of this "palm weevil" is a common food in December and January. The larva called *aldó*, as well as the pupa called *ambáling*, are also favorite foods. These latter are obtained in large numbers from the various palms in the Pinatubo area during the months of September and October.

Taiwah. *Xylotrupes* sp. The "scarab beetles" are common during the months of October and November, and are sought primarily on the leaves of *küya'-küya'-kamána*, *Abrus precatorius* Linn. This plant name means the "spirit's knife."

Hiláng. *Anomala* sp. This brilliant, green beetle, a real Negrito delicacy, is found in great numbers on the leaves of the *bagná*, *Glochidion urophyllodes* Elm., and according to the Negrito, in fewer numbers on the leaves of the common *mangá*, *Mangifera indica* Linn. As we have noted, the latter is not a native of the Philippines.

Ábaw. *Lepidiota* sp. This beetle is very common in March and April and is found in large quantities on the common grass *táib*, *Saccharum spontaneum* Linn. subsp. *indicum* Hack., as well as on the leaves of the *agóho*, *Casuarina equisetifolia* Linn. A small trench is dug around the latter tree, and a smudge-fire built close to the trunk. As the smoke billows upward, the branches are shaken violently, and the beetles fall into the trench. Using this method, the pygmies obtain great numbers of the *ábaw* (*ábal-ábal*, Ilk.).

Bikiw.—During the dry season this "wood-boring caterpillar" (Lepidoptera) is obtained from the roots of the vines, *duglóh*, *Mucuna sericophylla* Perk., and *pamikiwün-naputi*, *Canavalia luzonica* Piper.

In addition, the Negritos relish a number of other insects gathered during the dry months in the grasslands: the *yáy-yay*, or "big-cicada" (Cicadidae); the *biogobil*, or "green-locust" (*Eyrtaacanthacris* sp.); the *kolahláh* or "long-horned grasshopper" (Locustidae). A long white larva of a beetle is commonly found in the dead trunks of trees belonging to the genus *Ficus*. These grubs are a prized food among all of the pygmies in the Zambales Range, and among the Pinatubo

¹²² Otanes, F. Q. Entomologist of the Bureau of Plant Industry, Manila, graciously identified all of the insects cited, from specimens which I collected in the Pinatubo area.

Negritos are called *kátid*. A beetle, *dámug*, is gathered in sizable quantities from the trunks of the *kátok*, *Sandoricum koetjape* (Burm. f.) Merr., which we have seen is of prehistoric introduction, and from *balináwnaw*, *Otophora fruticosa* (Roxb.) Blm. Finally, the *úit*, also an edible beetle, is found throughout the year in the bamboo thickets.

PLANTS YIELDING DRINKABLE WATER

As we have discussed in the Introduction, whole Negrito villages on the middle slopes of Mt. Pinatubo derive their entire water supply during the dry months from specific trees and/or vines. The principal trees yielding this pure, fresh water, which the pygmies call *toktók*, are:

AymIt. *Ficus minahassae* (Teysm. and de Vr.) Miq.

Alyáwa. *Oreocnide trinervis* (Wedd.) Miq.

Local name: *bulldáwa* (Tag.)

Kayáhan. *Ficus variegata* Blm.

Lipah. *Laportea meyeniana* (Walp.) Warb.

Túbáy. *Ficus nota* (Blco.) Merr.

TitiPhán. *Ficus barnesii* Merr.

The following two vines, as well as the rattans previously noted, also yield water, but the *anópo* is dry during the day, and the water must be obtained at night or early in the mornings and evenings. As we shall see in following discussions, the watery sap of these two vines is more important to the Negritos as a medicine.

Aladlad. *Tetracera scandens* (Linn.) Merr.

Anópo. *Conoccephalus* sp.

Local names: *kanopol* (Tag.); *anopul* (Bil.); *anapul* (Ig.)

The most important of these plants which are prepared daily for a water supply is the *túbáy* and *aymIt*. The Pinatubo pygmies would not be able to live in the Yamót and Yamtók areas during the dry months, if it were not for the presence of these two trees in large numbers.

During the wet months, rain water is caught by means of a basin of banana leaves, the *palkóng*, and supplements the water supply from the trees. All Philippine groups with whom I have worked will on rare occasions use plants as a source of drinking water, but I have not seen or heard of another Philippine people dependent upon this supply for semisedentary habitation.

PLANTS AND THE BELIEF IN SPIRITS

The Pinatubo Negritos believe that a myriad of spirits, generally called *anito* or *kamána*, inhabit the total environment. A number of these spirits are specifically evil, but in general the "environmental spirits" may be either malicious or friendly depending upon the purposeful, or accidental, relationships that the individual Negrito has with the spirits.¹²³

An example of a specifically evil and very dangerous spirit is the *balándang*. A pygmy seen or caught by this spirit in the forest is immediately killed. His relatives will know that it was an act of *balándang* when there is much blood on the ground near the body of the person, but there will be no wounds on his body. This spirit is also known to live in the fighting bolo, the *katána*. If without human stimulus the bolo and scabbard are seen to move, the Negritos present will flee. Should the bolo accidentally or purposely be removed from the scabbard, it will strike and kill. This appears to be a rationalization of crime, for I have heard a number of Negritos remark: "If the owner of a *katána* is mad at someone, the *balándang* will get out of the scabbard, and kill that person!"

In contrast to the few spirits which are only evil and dangerous, countless spirits inhabit the environment which are normally friendly and helpful but which, when provoked, may cause sickness even death. For example, *balándang* is a powerful supernatural who is the leader of the wild pigs and deer, and who with *kabhokán*, greatly influences the outcome of hunting activities. If this spirit is merely wandering in the forest, it is useless to hunt, for when *balándang* is heard calling to his pigs and deer, the hunter will get no game. These spirits will frequently play tricks on the hunters. Pigs, the property of *balándang*, or this spirit in the guise of a pig, will appear or vanish, grow large or small, as the hunter watches.

An experience which a Negrito hunter had recently while hunting in the forest near Tarukók (see Map) is typical of the stories of *balándang*. The hunter had just killed a pig, when lo, he saw another. He shot and killed this large pig too!

¹²³ Father Vanoverbergh's statements about the "universality of monotheism" among the Negritos of northern and eastern Luzon are in no way applicable to the Negritos of the Zambales Range, and I would question the validity of his observations among the Negrito and Dumagat groups on the east coast of Luzon. Cf., Negritos of Eastern Luzon, pp. 160-164; Negritos of Northern Luzon Again, pp. 540-558.

Still not satisfied, the hunter hid the two pigs, and continued to search the forest. After hunting for a short while with no further luck, he returned to where he had left the two dead animals. They were gone! *Balándang* had gathered his flock! The moral of this particular experience is obvious.

Recognizing the power of *balándang* and other spirits, the pygmies perform specific activities to maintain and insure harmonious relationships. Thus, before entering the forest to hunt, the pygmy shouts:

<i>Agkáy nópán tumála' balándang, ta</i>	Don't you first search <i>balándang</i> ,
<i>híkáy gapán itáman!</i>	but instead we will go first!
	(free translation)

If the hunter has been successful, he will cut off a portion of the meat and/or liver of the kill, place it on a rock or log nearby, and shout: "This is your share *balándang*!" If this is not done, the hunter might become sick, or the spirit might maliciously place a stone or log in the hunter's path, and cause him to break his leg as he was returning from the chase.

The spirits are very human in their actions and desires. Specific trees, bamboo thickets, rocks, and caves are their homes, and particular forest glades, as well as animals, their property. They have families and children. Not far from Ugík (see Map) there is a large clump of bamboo which, according to the Negritos, is always cleared of dead growth. The Negritos state that this is the nightly activity of the spirits, as they live there, and no pygmy would wittingly cut this bamboo however great the need. Sometimes a Negrito will unwittingly antagonize a spirit, and will become sick. For example, a man might accidentally burn the home of a spirit while he is making a clearing (see the discussion of the curing-séance below). The evil *balándang* might be inhabiting a rattan which will only be known to the pygmy when he cuts the stem, and blood gushes from the slash. This unfortunate Negrito, according to informants, will certainly become sick and die.

Children are disciplined by the fear of the spirit(s) of specific plants. The Negrito mothers commonly tell their children; "If you arise late, you will be caught by the spirit of the *alawóy* (a tree, *Vernonia vidalii* Merr.), and you will be sickly." It is believed that, "If you play with the fruit of the *túbóy* [*Ficus nota* (Blco.) Merr.], you will not be able to urinate." "There will be a famine, if you see the flowers of the *karáyan-mantúg* (*Bambusa spinosa* Blume), or of *karáyan-kiling* (*Bambusa vulgaris* Schrad.)." These two bamboos rarely bloom (many

marginal people closely associated with these plants deny that they do bloom) which probably accounts for this belief.

In general, it is the hundreds of stories about inexplicable and unusual events in the lives of the individual pygmy, many of which are related to plants, which support and develop their belief in spirits. In the following treatment of Medicinal plants and practices, much more will be said about these animistic beliefs, for it is by causing sickness, injury, and death that the spirits express their antagonisms.

Dangerous plants.—Many plants are recognized by the Pinatubo Negritos as being solely the property of spirits, and for this reason are potentially dangerous. If a pygmy should deliberately, or even accidentally, violate these plants sickness, perhaps death, will be the penalty demanded by the offended spirit(s).

The relationship between the Negrito and dangerous plants was pointed out to me many times while collecting specimens, and on one occasion near Yamtók, I recorded the warning of an old Negrito woman about a plant belonging to the spirits. We had located near Yamtók a rattan bearing fruit, and while on the way there, we had stopped at this village telling what we were doing, and the location of the rattan. Immediately, an old woman spoke:

Atóy láwi ya ikén kaukamána.
Agmoyó tanputákin ya puón na,
baktá kuwín moyó taná ya bu-
lákíak na boy buláng!

That rattan is owned by the spirits.
Don't you cut the stem, just get the
flowers and leaves! (free trans-
lation)

In this particular instance, the rattan was not *limúdan*, *Calamus ornatus* Blm., which is never violated by the more conservative pygmies, but *malikóban*, *Calamus* sp., which is useful in many ways. Nevertheless, this particular plant was believed to be temporarily the abode of spirits and thus was tabu.

My best friend and informant among the Pinatubo Negritos, with whom I lived for almost one year, refused with every excuse possible to show me the location of three trees which are always the homes of spirits; the *dalaído*, *dulin*, and *did'a*. He suspected that I would collect them, and absolutely refused to expose us to danger. Despite these beliefs which inhibited the collection of "dangerous plants," a few were obtained, one identified from photographs, and another from personal field observation.

Bangál or taká'-dimúnyo. Sterculia foetida Linn.

The descriptive plant name, *taká'-dimúnyo*, means the "waste matter of *dimúnyo* (a spirit, *demonio*, Sp.)," and it is believed that this spirit lives in the very evil-smelling flower of this large tree. The Pinatubo Negritos, as well as the Sambal in the Municipality of Botolan, will not build their dwellings near this plant. Nevertheless, some of the pygmies will eat the seeds of this tree for food, and as a purgative.

Bayúngyúng-binangúnan. Nepenthes alata Blco.

All species of the "pitcher plants" are considered very dangerous by the older Negritos, for they are believed to be the personal property of the malign spirit, *binangúnan*.¹³⁴ The *bayúngyúng* is a short, water tube made of bamboo describing the "pitcher" of these plants in which insects drown and decay and provide food for the plants.

This plant was first obtained in a rather amusing manner. I had asked a group of school children at Villar about pitcher plants, and whether or not they knew where some of these plants were. A young Negrito boy, Paing, said he did, and within an hour had returned with an excellent specimen in flower. I did not think anything more about the incident until the next day when I learned that Paing had been warned by an old man about the dangers of this plant, and how it was the property of *binangúnan*. As this occurred after he had collected the plant, Paing was very frightened, and he spent a sleepless night. Subsequently, the story set forth below was obtained from the group:

During the time of the first people, there was a couple who went to live along the river. They thought that they had selected a good place to stay, but it so happened that it was a bad place, for it was near a pitcher plant. During the first night at the new place, the couple felt that strange things would happen to them, but they did not know what to do. All of a sudden they heard a loud murmur, and saw that it came from a huge fly. When the murmur stopped, they heard a loud hiss. A few moments later *binangúnan* appeared, and stopped near their new dwelling. The spirit looked somewhat like a horse, but there was a fire

¹³⁴ *Binangúnan* means literally, "the place where something has arisen," from *danger*, "rise up." In a manuscript in the files of the National Museum concerning the Acta of Baler written by Damian Amaza for Laurence L. Wilson, he notes that *binangúnan* is the "god of danger, sickness and death."

Beliefs about the spirit *binangúnan* are also encountered among the Sambal in the Municipality of Botolan.

on its back from the head to the tail. As they watched, the spirit drank from the pitcher plant which they had not seen. The couple hoped that the spirit would not see them.

The next morning they moved their house, for they were very frightened at what they had seen. But, the spirit had seen them, and followed the couple to their new location. He caught and killed them by pulling out their fingernails, and sucking their blood.

Bigá'. Alocasia macrorrhiza (Linn.) Schott.

This giant herb, popularly called "elephant's ear," is said by the Negritos to be the *tán'* (taro) of the spirits, and as a matter of fact, the plant belongs to the same family as the cultivated taro, Araceae. One informant related how a Negrito friend of his had become very ill, because he had foolishly used the huge leaf of this plant as a "rain cover," *tulóng*. The death of the Sambal school teacher at Morassa, a number of years before the past war, is still attributed by the Negritos to the angered spirits of this plant. Despite repeated warnings, this teacher had taken a small *bigá'* and had planted it in his yard. Shortly thereafter he became very ill and died.

This plant was identified from numerous photographs which I took of a specimen at least 15 feet in height and with leaves over 5 feet in length.

Hukúh. Biophytum sensitivum (Linn.) DC.

The Pinatubo pygmies believe that this minute, pantropic herb, which folds at night, is a very dangerous plant and if touched by a small boy or girl, will cause their death. According to Merrill, this plant is called *damong-huya* in Bisaya, and *hoya-hoya* in Panay Bisaya.

Límúdan or límúran. Calamus ornatus Blm.

According to the deeper Negritos, this rattan is solely the property of the spirits and no pygmy would wittingly utilize or destroy this plant. The more acculturated Negritos, and the Sambal living in the mountains, gather and sell this rattan into the lowlands where it is used for furniture.

This plant name is encountered in many dialects in central Luzon and Professor Sulit suggests that the vernacular names are derived from the Tagalog name of a common snake, *alímúran*. The pattern on the skin of the fruit of this rattan is very similar to the snake's skin. This is not, however, the name of a snake in Sambal.

Pada'-kamána or *kítáng*. *Merremia umbellata* (Linn.)
Hallier f.

This plant, which has an unpleasant odor when the stem is broken, is said to be the property of the spirits. In the Negritos' system of botanical classification the true *pada'* is *Pueraria phaseoloides* (Roxb.) Benth. and the above plant is differentiated by including the term for "spirit," *kamána*. No cognate was found for the plant name *kítáng*.

Papápa. *Ficus* sp.

This tree, one of the largest in the Pinanubo area, is carefully avoided, as it is always the home of spirits. This plant was identified by personal observation while in the field, for I was unable to collect a specimen without antagonizing my companions. This plant name also appears in Tagalog for *Ficus papaya* Blea.

Pabó-sulámp. *Nepenthes birtala* (Forster) Presl.

The malign spirit, *sulámp* (see the Introduction), owns this fern, and it is judiciously avoided by the Pinanubo paganes.

It is interesting to note that unusual properties which a plant may have, such as the Pinanubo *Pinnas*, plants with flowers and stems having strong odors, etc., are apparently important in conceptually stimulating the relationships of a plant with spirits. Plants which are non-edible, e.g., mushrooms and standing, are classified in the same manner. Strangely, the Pinanubo Negritos do not fear the scrambling figs, commonly called *balit*, which are believed to be homes of spirits by many Philippine people.

Plants possessing supernatural power—i.e., low plants are traditionally believed to have intrinsic supernatural "power" when manipulated, and are employed as low charms as protection against the evil spirits, and so forth. These plants, enumerated below, are common property and their uses as charms, etc., are traditionally established and recognized. In certain individuals, particularly the tumors, will have marked "malign" which in many instances are also known from charms. These ailments are highly feared and are recognized as having "charm" only through the magical-religious ceremonies of the pagan. The "balit" are rarely shown to anyone except to one discussed. I had known a young tumor of very serious nature, he produced a dried, frog-like skin which was believed to

Professor M. D. Sulit of the National Museum as a *Dracontomelum* seed) and the following story:

I was hunting frogs near the river when I saw one. The frog tried to escape by going under a rock, but I reached into the hole and caught it. The frog urinated on my hand. However, when I opened my fist, I had this (the seed)! I know it came from the frog, for whenever I carry it frog hunting, I am very successful.¹³⁵

The plants generally recognized by the group as having supernatural power are as follows:

Balikwáh-damwág. Cissus repens Lam.

The leaves of this plant are merely rubbed on the back of a wild or fierce carabao to make it tame. This is a local descriptive plant name.

Banhikol. Piper retrofractum Vahl.

The stem of this vine is scraped, the shavings placed in water, and the water heated. A fighting cock used with the *hallóng* trap is smudged with the vapor of this water. Charming of this type is called *kúbo'*, in this particular instance *kúbo'-manók* (*manók* is chicken), and insures that the decoy-cock will attract many wild roosters to the trap. The lowland Sambal prepare their fighting cocks, the *habóng*, for the cock-pit in the same manner. A similar usage is found among the Tagalog and Merrill notes that this plant is called *súbo-manók* by the Tagalog.

Discal-ák. Osbeckia chinensis Linn.

If a Negrito is traveling and wishes to have a casual love affair on the way, he will carry the blossom of this plant tucked into his loin cloth. Any object utilized to attract the opposite sex is called *gayáma*. The latter term is heard throughout the Philippines for "love charm." No cognates were found for this plant name.

Dumádoh. Mitrasacme polymorpha R. Br.

This small weed is used as a love charm by the Negrito men. The whole plant is very gently brushed on a woman's back so

¹³⁵ Frogs, particularly during the rainy season, are an important additional source of food. The generic term for frogs is *pahinga'* (this means "rest" in Tagalog, and is a fine example of semantic change) and they recognize at least twelve different ones: the *pahinga'-bákít*, *mamakpát*, *taláta*, *upík*, *págutl'*, *píhah*, *pílik*, *talangbá'*, *lumóg*, *buktót*, *yagópyop*, and *talakádang*.

that she is not aware of it, or her comb is borrowed on some pretense, and the plant rubbed on her comb. No related terms were found in Merrill for this plant name.

Huláng. Micromelum inodorum (Blco.) Tanaka

The seeds of this large bush are made into a necklace and worn as a protection against the *mandangá*. *Dangá*, is an "evil power" manipulated by unscrupulous individuals practicing a form of sympathetic magic. If this "witch," the *mandangá*, sees the footprints of a person whom he dislikes, he covers the footprints with earth, and while doing so cries. The person whose footprints were covered will then become thin and may die. Numerous other activities, such as this one, are believed to characterize the behavior of the witches. The *dangá*, and bride-price are the two constant sources of trouble among the Zambales Negritos, for individuals suspected of practicing this evil are sometimes killed by the relatives of the person who are believed to have been made ill. No cognates were found for this plant name.

Húbo'-áho. Bolbitis heteroclita (Presl) Ching.

Tectaria trifolia (v. A. v. R.) C. Chr.

The leaves of either one of these two ferns are burned and the ashes mixed with the food of the hunting dogs to provide them with an extraordinary power for scenting the wild pigs and deer.

The *láda-bálang*, the spontaneous pepper of American origin, is also used as a dog-charm. The hunter chews the leaves and spits them into the mouth and ears of the dog. In addition, a flying ant called *hulihol* is roasted and placed in the dog's mouth so that it will easily smell game.¹³⁴ The plant name,

¹³⁴ I have encountered charms for hunting dogs among all of the Non-Christian groups with whom I have worked. Among the Polillo Dumagat, a shrub called *dáda-ni-tabili*, *Rauwolfia* sp., is constantly used. The leaves are pounded and then rubbed on the head of the dog so that it will be "brave" in hunting, and will attack the pigs. The Ipigi Egongot charm the hunting dogs with a practice called *úgi-úgi*. The hunter gathers the leaves of at least ten plants of which the following were collected: *pasigi*, *Staurogyne* sp., *sadlang*, *Tectaria decurrens* (Presl) Copel; and *ámo*, *Staurogyne* sp. The leaves are then crushed together, soaked in water, and pounded. When this has been accomplished, the hunter rubs the mash on the nose of the dog, or allows the dog to smell the mash of leaves, and then rubs the legs of the dog with the mash in a downward motion. As he rubs the leaves on the dog, the hunter always blows on the body of the dog.

húbo'-áho, is descriptive denoting its use; *húbo'*, "animal charm," and *áho*, "dog."

Púddá'. *Pueraria phaseoloides* (Roxb.) Benth.

The leaves of this vine are rubbed on the arrows and bows, and in recent years on guns, for luck in hunting. Invariably, the action will be accompanied by the following formula, *Pakabátin kay*, which when translated freely means, "Let there be luck for all." No cognates were found.

Palúmay. *Lycopodium phlegmaria* Linn.

This epiphytic fern is the most common form of *gayúma* among the Pinatubo pygmies. Many of the Negritos carry a part of this fern with them at all times to keep people or animals, particularly snakes, from becoming angry at the user. I had a Negrito man with me in Manila for three months before I discovered that he was carrying a portion of this fern in a match-box.

The fern is also hung in the dwellings so that the household will be free from quarrels and so that no one will become angry with the owner of the dwelling or members of his family. Mere possession of a part of this plant will aid a man in the conquest of a woman, for she cannot become angry at any of his actions.

The Negritos' use of this plant has undoubtedly provoked its local name. In Tayabas-Tagalog, *panglumáy* means "anything (usually plants) which is used for a love charm" and in Bikol as well as Antique-Bisaya, *lumáy* means "love charm." The Negritos, however, do not now recognize any derivation for their plant name, *palúmay*.

Lycopodium cornutum Linn., is called *palúmay-damudág*, the "water buffalo's *palúmay*," but it has no use.

Lítít or *kaláh-kaláh*. *Piper celtidiforme* Opiz.

The pygmies scrape the roots of this vine into a bowl of water and then entice the decoy rooster used with the *hallóng* trap to drink. It is believed that this will make the bird lucky and brave. This plant is also called *lítít* in Tagalog and Pampangan. No cognates were found for *kaláh-kaláh*, but it undoubtedly a locally coined plant name derived from the Sambal term for "scrape" which denotes the method in which the plant is prepared.

Patógo. Cycas rumphii Miq.

The fruit of this "palm-like" tree is made into a necklace and worn by the women and children to ward off the malign spirits. According to Merrill, this plant is called *patógo* or *pitógo* in Tagalog.

Támbal-balanding. Aristolochia philippinensis Warb.

Short pieces of the whole root of this vine are made into a necklace and worn to drive away the evil spirit, *balanding*. This plant name means, "the medicine (*támbal*) for *balanding*."

Tanyáung. Vanieria cochinchinensis Lour.

The whole stem of this vine is tied under the floorings of Negrito dwellings so that the evil spirits will not enter and make the occupants sick. This same plant, according to Merrill, is called *talólong* in Iloko and Igorot.

Plants burned under the dwellings to drive away the malign spirits.—The only use of a number of plants is for burning under the dwelling of sick Negritos to drive away the evil spirit(s) causing the sickness, or to prevent malign spirits from entering the household and complicating the sickness. This practice is also encountered among the provincial Sambal.

Fires are burned nightly under the dwellings of the Pinstubo pygmies to combat mosquitoes, but only the following plants have the "power" to inhibit the activities of the evil spirits:

Amyóng. Phacanthus chractcolatus (Presl) Merr.

(small tree) According to Merrill *amyóng* is *Goniocaliswar amyóng* (Ble.) Merr. in Tagalog and the plant belongs to the same family, Annonaceae, as *Phacanthus*.

Bandái. Murryya paniculata (Linn.) Jack.

(small tree) Local names: *bandái* (Bik., Ilo.); *brunai* (Ilo.).

Kópang. Parkia javanica (Lam.) Merr.

(large tree) Local names: *kópang* (Port. Stenoheep Negritos); *kópang* (Tag., Ilo.).

Hapód. Dasymaschalon clusiflorum Merr.

(Small tree) Local names: *apod* (Ilo.); *hapod* (P.-Bik.) for *Glochidion pseudoceras* (Blk.) G. B. Rob.

Hapód-ya-kinié. Artabotrys monopneus Merr.

(vine) *Kinié* means "vine," thus this is the "hapod vine"; *hapod* and *hapod-ya-kinié* belong to the same family.

Anonaceae; this plant is also called *maga'amyóng* which means "like the *amyóng*," and the *amyóng* also belongs to the same plant family.

Mággipiyás. Glochidion llanosii Muell.-Arg.

Cnestis palala (Lour.) Merr.

(shrubs) Local names: *malakamias* (Tag.); the Negritos' plant name means "like the *piyas* (*pias*)"; the latter plant is the introduced *Averrhoa bilimbi* Linn.

Pupúlho' or pupúho'. Goniothalamus elmeri Merr.

(tree) This plant name was very probably coined by the Pinatubo pygmies as indicated by its construction, but I could not derive its meaning.

Four out of the above eight plants, burned under dwellings to drive away the malign spirits, belong to the family Anonaceae. This illustrates that the Pinatubo pygmies do not select useful plants at random, even if used for magico-religious functions in which there would be no demand for specific technological properties of the plants; for example, a hard wood for bolo handles. Rather the pygmies have a traditional conception of broad relationships between plants which are related—sometimes phylogenetically—and their uses.

MEDICINAL PLANTS AND PRACTICES

In order to understand the uses of medicinal plants by the Pinatubo Negritos, it is first necessary to discuss, even briefly, their "theories of disease." In the first place, the Negritos' treatment of all sickness and disease is wholly magico-religious in character. It could hardly be otherwise, for the pygmies have no tools other than observation, which is unreliable if not controlled, to measure cause and effect. Their "theories of disease," though similar to beliefs encountered throughout the Philippines have not, as elsewhere, been radically influenced by Western medical ideas.¹²⁷

By virtue of traditional theories, the Negritos believe that their medicines have control over supernatural, as well as natural forces. All serious sickness is believed to have been caused either "directly" by malign spirits, or "indirectly" by spirits

¹²⁷ Although an extensive malarial program has been carried on in Zamboales, I found only one Negrito, a teacher, who was aware of the relationship between the mosquito and malaria. The mosquito is only a nuisance to the pygmies in that it disturbs sleep.

complicating the original sickness. If, for example, a pygmy is ill by having broken a tabu, an evil spirit might attack him and cause the sickness to become more serious. This might be prevented, as we have noted, by burning specific plants under the dwellings, or by wearing necklaces made of seeds and stems of plants which have the "power" to ward off the attacks of malign spirits. All illnesses, even a common cold, are potentially serious because of the intervention of evil spirits and precautions must be taken!

The Negritos employ simultaneously several theories as to the cause of sickness and disease. The theory most generally heard, as we have noted, is that spirits "directly" cause illness through having been provoked or antagonized by the actions of an individual. In most instances, the cause of the sickness is determined, and the cure effected, by a medium, the *manganito*, in a "curing-séance" called the *anituwán*.¹³⁵ The medium invokes personal spirits, which have been attracted to the medium who acts as the "host," to capture the spirit which has entered the body of the patient, and caused the sickness.¹³⁶ When the evil spirit has been captured, it is either appeased or destroyed by the spirit-helpers of the medium. This action alone may be sufficient to constitute a cure and there is no use of the more than two hundred medicinal plants known to the Pinatubo pygmies. On other occasions, the spirit-helper of the medium will recommend specific medicinal plants to speed the cure.

The use of medicinal plants is not, however, entirely dependent upon the recommendations of the spirit-helpers, for any Negrito can employ, at any time, known medicines. e. g., in the treatment of an ulcer. Rather, it is the attitude of the pygmies that the knowledge of the most effective plants is better known to the spirit-helpers, and to the medicine-men, than to the ordinary person. When the illness is serious, this is particularly true.

¹³⁵ A thorough discussion of the curing-séance, and the activities of the mediums, may be found in my manuscript in the files of the National Museum, 26 pages, entitled *The Anituwán or "Curing-Séance" of the Pinatubo Negritos, Zambales*.

¹³⁶ The similarities of the curing-séance of the Pinatubo pygmies to the activities of the Malay shaman is strikingly pointed out in the following quotation: "As a rule the object of a séance for the sick is to discover the name and desire of the spirit possessing the patient, so that it can be expelled by the help or advice of a stronger spirit or coaxed out of the sufferer's body either into the shaman's own or usually on to a receptacle containing food." Winstedt, R. O. More notes on Malay magic. *Jour. Malayan Branch Royal Asiatic Society* 8 (1927) 245.

A curing-séance.—To illustrate the relationship between the belief in spirits, and the Negritos' theories of diseases, a curing-séance is described below.

A man had become sick after burning a slope while preparing a clearing for planting corn. The symptoms of the sickness, according to his statements, were a heavy body and dizziness. The medium had been called, which in this séance was a woman, and the entire population of the village had crowded into one of the dwellings. As in most cases, this curing-séance took place at night, and in this particular instance it was a rather festive occasion.

A cleared space was made in the center of the dwelling, and the patient was placed in the front row of the bystanders. A young girl was playing "pandango" tunes on the guitar, for it is usually through dancing that the medium invokes the spirit-helpers and captures the spirit causing the sickness. With eyes closed the woman began to dance around the cleared circle. Suddenly, she dropped to the floor on her knees with her whole body shaking spasmodically. This was the moment of actual possession in which the spirit causing the sickness entered the woman's body. In the words of the Negritos: "The spirit is climbing her body." Then, in what appeared to be a real trance state, the woman arose, and resumed erratic dancing. Very frequently she stumbled and without the aid of the spectators would have fallen numerous times.

Another woman began to ask her questions (recorded below with the letter "Q"). As a matter of fact, many questions were asked by different people in the audience, but only those of this particular woman were answered by the spirit. Any bystander who can obtain a response from the spirits during the séance, and whose questions are answered, is called specifically, the *mamahtáng*. Then, the spirit which had caused the sickness began to answer the questions of the *mamahtáng* in a very, high pitched and unnatural voice, though understandable. The Negritos, of course, insist that this is the voice of the spirit, and the medium always denies conscious awareness of speaking, or of any of her/his actions.¹⁰ The answers of this spirit were also recorded and are set forth below (marked with the letter "A").

¹⁰ It appeared to me in many instances that the mediums were in a real dissociated state, and were, in fact, not wholly conscious of their actions.

In this particular curing-séance, the spirit which had been antagonized, and which had caused the man to become ill, had been captured immediately by the spirit-helper of the medium. It was this captured spirit which answered the questions. There was no questioning of the spirit-helper, that is, the personal spirit of the medium, which was the case in most of the curing-séances that I have witnessed. The dialogue between the captured spirit and the questioner was as follows:

REMARKS:

Q. <i>Hini kay habayin?</i>	Who is that?	The questioner is attempting to obtain the name of the spirit.
A. <i>Hikoy nay malidag na payapa!</i>	I am the large payapa!	That is, a spirit of the tree <i>payapa</i> , <i>Ficus</i> sp.
Q. <i>Inta' nanuad ka bahin?</i>	Why did you do like that?	Why did the spirit make the man sick?
A. <i>Awtá, naulam kayá itaman.</i>	Yes, we have been burned already.	This, of course, refers to the fact that the man had accidentally burned the tree of this spirit—his home and children.
Q. <i>Awtá, hini nangulam moyó?</i>	Yes, who of you were burned?	
A. <i>Naulan ba! ka boy awandk!</i>	(He) burned my house and children!	
Q. <i>Ay mamakahámpat ka pa?</i>	Will you let (him) become well?	
A. <i>Mamakahámpat ta ko po, nu ag omáwan na ko.</i>	I will let him become well, if he will give <i>óma</i> to me.	<i>Óma</i> is any type of "gift" to the spirits.
Q. <i>Hini igand, bayti moyó?</i>	What shall (he) give to you?	In this curing-séance the cure was accomplished by merely removing, and appeasing, the spirit. In
A. <i>Biyán mo kon hamdóng ko ga gaydag boy kondiman.</i>	You give to me a gift of a spear, and red cloth. ¹⁴	

¹⁴ As noted in the dialogue, the spirit asked for a penalty-payment of a spear (*gaydag*), and red cloth (*kondiman*). This is very interesting in that the Pinatubo Negritos do not use spears today in any other way. However, my oldest informants state that a few spears, as well as shields (*haldag*) were used by the pygmies during Spanish times. In contrast, spears have been, and are still, widely utilized by the Sambal for hunting, and other purposes.

The spear that is referred to in this curing-séance is wholly ceremonial in use. The handle is made of bamboo, about one and a half meters long, and the point of the outer hard wood of palma. One internode of a large bamboo is filled with sand and the spear is tied to this internode by means of a strip of red cloth. The gift is hung in the corner of the dwelling. The nature of these gifts, as well as the fact that the ancestral Sambal also practice séances for curing the sick, would suggest that the Negritos borrowed this custom from the Sambal.

- | | | |
|---|---|--|
| Q. <i>Ay nuna gaud' wadi</i>
<i>bay-in ay mamaka-</i>
<i>hampat kay na?</i> | If these will be given,
will you let him be-
come well? | other séances, the
medium might use
medicinal plants,
and/or destroy the
spirit causing the
sickness. |
| A. <i>Aw-ol</i> | Yes! (emphatic) | |

The behavior of the medium at the completion of this curing-séance was similar to others whom I have seen. Her eyes opened, and in a few minutes she was involved in normal activities, in this instance, grinding corn. I was unable to follow up this case, but according to my informants, the gifts were prepared as directed by the spirit and the man became well.

Other "theories of disease".—The Pinatubo pygmies also believe that misconduct on the part of an individual, or breaking a tabu, will cause sickness. It is very interesting to note that sickness which has resulted from misconduct is almost always due to a Negrito having violated the property rights of another Negrito, and social controls are largely the product of magico-religious sanctions and not political organization and strong leadership. This is illustrated in the following examples:

Tuhó Balintay, a well known Negrito "leader" who lived at Ugik, died in 1947 while I was working at Villar. Governor Anonas, who was present, stated that the cause was probably diphtheria, but it was the opinion of the Negritos with whom I talked, that he had died as a result of violating the property rights of his nephew. Shortly before his illness, and subsequent death, Tuhó, had taken camotes from the clearing of his nephew without permission, and afterwards had made no attempt to pay his nephew. This, they believed, was the initial cause of the sickness, and later evil spirits had intervened to seal his doom.

If a Negrito even accidentally destroys the property of another Negrito, he must give a gift called *ihik* or *langgád* to the owner of the property, or the owner (!) will become ill. When no gift is forwarded, the person accidentally destroying the property of another will be held responsible, possibly with violent consequences, for any subsequent sickness which the owner of the property might incur.

In 1946, Jacinto Balintay accidentally burned a blanket which he had borrowed from his first cousin. He immediately gave a chicken—something having blood—to his cousin as the *ihik*.

I witnessed a funeral in 1947 for a woman who had died in childbirth and who, I learned, had been *lábung-lábung*, that is, "spirit impregnated," for having violated a tabu. The woman had washed some clothes and had forgotten and left them on the ground after dark. Under these circumstances, her husband

or a male relative should have gathered the clothes, but she had done so and had been impregnated by the evil spirit *gomohaw*. Consequently, the "spirit baby" was too large for delivery. This belief is also held by the lowland Sambal and as washing clothing is not a typical Negrito activity, it is possibly a recently borrowed belief.

The Pinatubo Negrito is not wholly unaware of the somatic causes of sickness, as he knows, for example, that a broken leg is the result of a broken bone, and he treats the break pragmatically. However, as we have noted, a spirit might have originally arranged environmental conditions so that the Negrito would break his leg. Sympathy for illness and death is somewhat dulled by this attitude. A Negrito will remark about the death of a person that it was "his misconduct" (a personal problem of the relationships between an individual and the spirits and supernatural forces), and a death cannot always be prevented by human actions even with the aid of the strongest spirit-helpers and medicines. Nevertheless, great concern is shown when a person is seriously ill, and mediums will be employed constantly, markedly interrupting ordinary daily life, until the person becomes well or dies. In the case of Tuhó', described above, everything possible was done. Séances were held, medicines administered, etc., it was simply "foolishness" on Tuhó's part that had led to his death. Moreover, his nephew from whom the camotes were taken showed the greatest concern.

Why does the Pinatubo Negrito utilize so many medicinal plants which would indicate a rather realistic and somatic attitude towards the causes of sickness and disease while we have shown that his attitude is thoroughly magico-religious? I have noted how the Pinatubo pygmies will abandon a dwelling in which there is frequent sickness and I have been told by many informants that it was the custom in the past to abandon the sick person because of the great fear of sickness and spirits (particularly during epidemics). This latter behavior is not consistent with the presence among the pygmies of the curing-séance which demands intimate association with the patient and the use of many medicinal plants.¹⁴²

¹⁴² One informant specifically noted that it was valuable for every person to know medicinal plants, as well as to possess powerful personal spirits, due to the fact that an individual might be abandoned by the group, and even by his immediate family. He emphasized the point that this was a "bad custom."

In the first place, the Negritos make no attempt to explain or justify their "theories of disease" in a systematic and logical manner. There are few, if any, Negritos who would challenge traditional beliefs no matter how contradictory the beliefs might be. Moreover, the causative explanations, as well as the methods in which the sickness is treated, depend upon a number of factors: (1) the type and seriousness of the sickness, for example, the Negritos do not normally explain skin diseases as being caused by the spirits, rather it is the common belief that dermatosis is inherited, but if any sickness is serious, the spirits are always involved, and (2) the presence, or absence, of traditional explanations for sicknesses. For example, the Negrito is greatly concerned with thunder and "thunder attacks" and has elaborate explanations, preventions, and cures for this condition (discussed below as *timbi*), but there is little concern with, and no explanations for, an uncomplicated "common cold."

Many traditional explanations are utilized by the Pinatubo Negrito, which though now a part of their behavior, have obviously had their origins in very different "theories of disease." In other words, diverse historical forces have formed the present complex attitudes of the Pinatubo Negrito towards sickness, its cause and cure.

Discussion, by use, of the medicinal plants.—Other medicinal practices and beliefs will be illustrated in the following enumeration of medicinal plants. As we have noted, the arrangement of these medicinal plants is by conceptual categories of sicknesses established by the Pinatubo pygmies and not according to Western medical nomenclature. Their "theories of diseases" establish sicknesses which are not found in Western ideology; however, where possible, modern medical explanations of their medicinal terms will be included.

Alfu-alfu—"hernia"

Ditá. *Alstonia scholaris* (Linn.) R. Br.

The sap obtained from the trunk of this tree is rubbed on the groin. This plant name is found in Tagalog, Bisaya, and in many other Philippine dialects.

baliktad—"dermatosis"¹⁴³

Kalánat. *Artocarpus blancoi* (Elm.) Merr.

¹⁴³ The Pinatubo pygmies also employ six specific terms to define various types of skin diseases: *alipénga*, "athlete's foot"; *budág*, "body scabies"; *gulgul*, "head scabies"; *bákah-bákah*, "ring worm"; *labáng*, "depigmented and whitish skin areas"; and *ind*, "fungi on the scrotum and pubic areas."

The sap from this tree, which is quite similar to the true breadfruit, is rubbed on areas of the body having any type of skin disease (see Plate 10, fig. 2).

Hamúyaw or *tanígtig*. *Gmelina philippinensis* Cham.

The fruit of this plant is warmed over the fire, and the juice from the fruit is applied to athlete's foot. According to Merrill, the Tagalog call this plant *alipúnga*, "athlete's foot," which would also indicate that the plant had the same use among the Tagalog population.

Ikoy-tawndhan. *Aneilema malabaricum* (Linn.) Merr.

The leaves of this herb, descriptively called the "tail of the eel," are heated and then rubbed on areas of the body having a fungus infection.

Táw-táw. *Aglaonema oblongifolium* (Roxb.) Kunth.

This herb is squeezed to obtain a juice which is rubbed on areas of the body having skin scale. The plant name, *táw-táw*, is the reduplicated name for the domesticated taro, and moreover, this plant belongs to the same family, Araceae.

Tatabakó or *aymála*. *Clerodendron* sp.

The leaves of this bush are pounded to obtain a juice which is poured over areas of the body infected with skin diseases. No related terms were found in Merrill for *aymála*.

Baké—"goiter"

Pupúl-ok or *papatupát*. *Pterocaulon* sp.

The dried leaves of this plant are rolled with tobacco, and smoked for a goiter. No cognates found or derivations obtained, but the construction of both of the plant names would indicate that they are locally coined terms.

Bayá—"body swelling" (beri-beri)

Alyabón. *Blumea balsamifera* (Linn.) DC.

The leaves of this shrub are placed in a pot of water which is provided with a cover to avoid evaporation and the water is then brought to a boil. The steaming pot is placed with the patient under a blanket or some type of covering. A small hole is opened in the cover of the pot allowing the steam to escape and smudge, *huób*, the entire body of the sick person.

Guerrero notes that this plant is used in aromatic baths for rheumatism.¹⁴⁴

Támbal-bayá' or *tres-maria*. *Adenia zucca* (Blco.) Merr.

The stem of this endemic vine is pounded and then boiled in water. The concoction is then used to bathe swollen parts of the body. One of the plant names is descriptive meaning "medicine for a swollen body," and the other is Spanish in derivation.

Báwa'—"prolapsed uteri"

Batlág or *támbal-báwa'*. *Strychnos multiflora* Benth.

Old women—this condition, according to the Negritos, is usually found in the older women—merely chew the bitter roots of this endemic vine for *báwa'*. The Pinatubo pygmies also call this protrusion, *boláking*. The plant name *batlág* appears in one other contrast; *batlág-lawák*, *Desmodium heterocarpum* (Linn.) DC, and *Indigofera hirsuta* Linn., meaning the "batlág of the grass fields." These two plants have no use. No cognates were found for the specific term, *batlág*, but *támbal-báwa'* is a local, descriptive term.

Káko'—"cough"

Anópo. *Conocephalus* sp.

Pamikiwün-mantúg. *Mucuna nigricans* (Lour.) Steud.

Tátub-álo. *Iligera luzonensis* (Presl) Merr.

The watery sap obtained from the stems of the above three vines is ingested twice daily, in the mornings and in the evenings, for a bad cough. *Alyáwa'*, *Oreocnide trinervis* (Wedd.) Miq., a tree, also yields a watery sap which is used in the same manner and for the same purpose.

Diwal-ák. *Osbeckia chinensis* Linn.

The roots of this plant are merely chewed and the saliva is swallowed for coughing.

Kaompáy. *Homalomena philippinensis* Engl.

¹⁴⁴ Guerrero, L. M. Medicinal uses of Philippine plants. Manila, Bureau of Forestry, Bull. 22 3 (1921) 244. As Guerrero was primarily interested in the potential medicinal values of Philippine plants, he did not distinguish which Philippine ethnic group used the plant, or in many cases the method of use. Consequently, his work has limited value for ethnological purposes.

A necklace is made from the stem of this herb and worn for a very bad cough. This is a common usage when evil spirits are believed to have caused the condition. Sometimes the stem is soaked in water and the brew ingested for coughing. This plant is called *ahpáyí* by some Tagalog groups.

Hamát-bakí'. Piper interruptum Opiz.

The young leaves of this endemic vine are warmed and then rubbed on the neck for coughing. This plant name is descriptive meaning the "betel leaf of the monkey." The plant name, *hamát-bakóláw*, which has the same meaning, is also heard for this vine.

Talyó'. Pittosporum pentandrum (Blco.) Merr.

The bark of this endemic tree is merely tied around the neck, or woven into a necklace, and worn for coughing and headaches.

Uyóng. Miscanthus floribundulus (Labill.) Warb.

The shoots of this cane, the stems of which are commonly used for arrow shafts, are boiled in water and the brew is ingested for coughing.

Pupúl-ok or papatupát. Pterocaulon sp.

The Negritos chew and swallow the roots of this plant for coughing.

Kuyapáh—"boils" (*kawudó'* are boils (?) on the upper part of the body, particularly, the shoulders)

Búboh. Litsea sp.

Dalánót. Pipturus arborescens (Link.) C. B. Rob.

The dried bark of the above two trees is scraped to obtain a powder which is applied to boils.

Kalót. Dioscorea hispida Dennst.

A paste is obtained by scraping the raw, poisonous tuber of this vine and is placed on boils and ulcers.

Kadáyum-dagi. Bidens leucorrhiza (Lour.) DC.

The leaves of this herb are heated, and then applied as a poultice to boils. This is a common medicinal practice among other Non-Christian groups with whom I have worked. The local name means the "rat's needle." *Cosmos caudatus* HBK., a plant of American origin, has the same name and use. These two plants look somewhat alike, and belong to the same plant family, Compositae.

Dannukó'. Clerodendron minahassae Teysm. and Binn.

The leaves of this plant are warmed over the fire, rubbed with salt, and then plastered on boils. As is the case with most Philippine people, the Pinatubo pygmies ascribe considerable medicinal value to salt. Salt is, in fact, a highly prized item among the deeper Negritos, for it can only be obtained with considerable difficulty from the coastal people. No cognates were found for this plant name.

Gatf—Nodular manifestations appearing on the upper parts of the body. When ripe, the *gatf* bursts and if the condition is recurrent, it is called *buhd* (probably a tuberculous condition).

Támbal-gatf'. Erycibe sp.

The stem of this vine is scraped and the shavings placed in a bamboo tube and boiled. The brew is used to wash the eruptions.

Dawfyan—"diseases of the ear"

Káyum-dalága. Mussaenda philippica A. Rich.

The large, expanded, white calyx of this tree is simply inserted into the ear(s) when there is a discharge, or when hearing is poor. This plant name means the "maiden's tree," and appears in Tagalog as *káho-y-dalága* which has the same meaning.

Bandó-babái. Neonauclea reticulata (Havil.) Merr.

The whole leaf of this tree is placed in the ear(s) when there is a discharge, or the ear(s) aches. For the same reason, the pygmies also burn the hair of the Malay civet and then insert the ashes in their ears.

Dikdik—"inflamed eyes"

Dalína. Phacanthus sp.

The bark of this endemic vine is scraped, the shavings placed in a package made of banana leaves, and then heated. After the package has cooled, it is squeezed and the juice produced dripped into the inflamed eyes.

Dikdik is commonly believed to be caused by spirits. Once at Tukó', Zambales, I was trying to buy a beautiful fighting bolo from an old man, but he absolutely refused to sell, stating that it had been a gift to a spirit and that his eyes would become inflamed, if he disposed of it.

This vine is also called *hagód* by some of the Pinatubo pygmies and Merrill notes that *Phacanthus ebracteolatus* (Presl.) Merr., is called *dafinas* in Tagalog.

Dida'—"sore eyes"

Pakó'-anito. *Lastrea leucolepis* Presl.

The fronds of this fern are crushed to obtain a juice which is used as an eyewash. This is only one of a sizable number of ferns which are called the "spirit's fern."

Young bamboo shoots, the *pulyó'*, are also a common medicine for sore eyes. The ends of the shoots are softened by striking them against a hard object and then are rubbed on the edges of the eyes.

Didnan-ángin—A sickness which suddenly seizes a person and which causes a severe stomach-ache and cramps. The Negritos believe that this illness comes with the "wind"; hence, *ángin*.

Kalibubút-mantúg. *Tabernaemontana cumingiana* A. DC.

The leaves of this small tree are pounded, heated, and then plastered on the navel, *púhll*, and on the small of the back.

Túbóy. *Ficus nota* (Blco.) Merr.

The young leaves of this wild fig are rubbed with salt and then applied as a poultice to the navel, the back, and waist.

Hakitbakot—"uncomplicated backache"

Bubúlon. *Ficus caulocarpa* (Miq.) Miq.

The bark of this tree is stripped and then tied around the waist for a backache.

Sinko-sinko. *Polanisia icosandra* (Linn.) W. and A.

The leaves of this common weed are pounded, sprinkled with salt, and then rubbed on the back where it aches. This plant name is probably derived from the Spanish term for "five," *cinco*, for this weed has five leaflets in a single leaf.

Undáyon-pag-óng. *Tinospora reticulata* Miers.

The roots of this vine are merely tied around the waist for a backache.

Hakittatiyán—"abdominal pains," the so-called "stomach-ache"

Agláw. *Premna odorata* Blco.

The flowers of this tree are boiled in water and the brew is ingested for abdominal pains. According to Merrill, this plant

is called *aagau* in Tagalog, *abgao* in Panay Bisaya, *agdao* in Pampanga, and *alagao* in Ilokano.

Banabáh. Lagerstroemia speciosa (Linn.) Pers.

Shavings from the bark of this tree are boiled in water and the decoction ingested for a stomach-ache.

Dúhat or *lumbóy. Syzygium cumini* Skeels

The bark of this tree is also boiled in water and the brew is ingested for abdominal pains.

Damón. Tylophora brevipes (Turcz.) F.-Vill.

The fragrant roots of this plant are chewed and then swallowed for indigestion. This plant name is probably related to *lamón*, "grass," in Sambal, and *damó*, "grass," in Tagalog.

Tatabakó' or aymála. Clerodendron sp.

The roots of this plant are boiled and the brew drunk for stomach pains. *Gomphostemna philippinarum* Benth., is also called *aymála*.

Cloth bands, called *tatampálin*, are tied tightly around one or both of the upper arms as a protection against and a cure for stomach-aches. The Negritos state that these arm bands: "Draw the ache up and out of the body." The men and women who have once used these bands continue to do so for the rest of their lives, for it is believed that if the bands are removed, that the stomach-ache will return. Some of the pygmies have deep scar troughs produced by having worn these tight bands for many years.

Hakítálo—"simple headache"

The method usually employed by the Negritos in treating a simple headache is to place a leaf against the forehead and/or temples. Before application, the leaves may be rubbed with salt, and in some instances, pounded. The use of leaves as a poultice, *tápal*, is a widespread practice in the Philippines.

The leaves of the following plants are believed to have a medicinal value, if used in the manner described above:

Anónang. Cordia dichotoma Forst.

Aum-dum. Melanolepis multiglandulosa (Reinw.) Reichb f. and Zoll.

Awli'. Ficus hawili Blec.

Banabáh. Lagerstroemia speciosa (Linn.) Persl.

Busil-ak. Capparis horrida Linn.

Duglók. *Mucuna sericophylla* Perk.

Magdabanig. *Micromelum minutum* (Forst. f.) Seem.

Pullnin. *Hymenodictyon excelsum* (Roxb.) Wall.

Sínko-sínko. *Polanisia icosandra* (Linn.) W. and A.

Headaches are also treated in a number of other ways.

Ingwál. *Flagellaria indica* Linn.

The ashes obtained by burning the fruit of this vine are mixed with water and the brew ingested for headaches.

Panoypáy. *Kolowratia elegans* Presl.

The young roots of this plant are merely soaked in water and the water drunk for headaches. The pygmies state that the water becomes cool through this action.

Tagapháng. *Gymnosporia spinosa* (Blco.) Merr. and Rolfe.

The leaves of this tree are boiled in water and the mixture ingested for headaches.

Talyó'. *Pittosporum pentandrum* (Blco.) Merr.

The bark of this tree is merely worn as a necklace for headaches.

Tambák. *Alpinia haenkei* Presl.

The stem of this plant is cut into sections, mixed and cooked with any food, and eaten for headaches. The stem may also be soaked in water and the brew ingested for the same purpose.

Tátub-úlo. *Iligera luzonensis* (Presl) Merr.

The watery sap obtained from the stem of this vine is drunk for headaches.

Hildit—The symptoms of this sickness are aching, and enlarged veins in the extremities, particularly, the legs (probably including a varicose condition).

Butót. *Dioscorea filiformis* Blm.

In addition to its use for food, the tuber of this wild yam is believed to be a very effective medicine for hildit. The tuber is merely roasted or boiled and eaten as it would be for food.

Malabawúgan-malháy. *Pericampylus glaucus* (Lam.) Merr.

The whole stem of this vine is tied around both legs, just below the knees, for this illness. This plant name means "like the large bawúgan," (*Dioscorea esculenta*).

Taib. *Saccharum spontaneum* Linn. subsp. *indicum* Hack.
Yabót. *Imperata exaltata* Brongn.

The young leaves of the above two grasses are tied around both upper arms and/or both legs just below the knees, for *kildit*.

Hip-én or úngoy—the "common cold" (úngoy also means "mucus")
Aháwa-nin-títlak." *Phaleria perrottetiana* (Decne.) F-VIII.

The bark of this plant is woven into a necklace and worn for colds or coughing. This plant is descriptively called the "wife of the *títlak*." This latter plant has been identified as *Wikstroemia meyeniana* Warb.

Alyáwa. *Oreocnide trinervis* (Wedd.) Miq.

The water obtained from the stem of this vine is merely ingested for the common cold.

Aplón-kiyáng. *Melothria* sp.

The leaves of this plant are crushed to obtain a juice which is mixed with water and ingested. This local name means the "gall bladder of the *kiyáng*." This bird, *kiyáng*, popularly called the *coletto* (*Sarcops calvus calvus*), is very common in the Pinatubo area.

Kalangyá'. *Abrus* sp.

Necklaces are made out of sliced portions of the stem of this plant and worn when a Negrito has a cold. No cognates were found.

Dalakít. *Anomum* sp.

The fruit of this *Zingiberaceae*, important as a food, is also eaten as a medicine for a common cold.

Gulunggút. *Thunbergia fragrans* Roxb.

The leaves of this plant are crushed and then smelled for a cold, or the stem and leaves are made into a necklace and worn for the same purpose. No cognates were found.

Títlak. *Wikstroemia meyeniana* Warb.

A necklace is made out of the bark of this shrub, and is worn for colds. Though no derivation was found, the construction of this plant name would indicate that it was, at one time, coined by the pygmies.

Hágat—"wound" or "cut"

Amákaw. *Musa errans* (Blco.) Teodoro

The young, unfolded leaves of this wild banana are sometimes used as a covering, a "bandage," for large wounds. However, many of the pygmies make no attempt to cover even the largest wounds and ulcers.

Banhikol. *Piper retrofractum* Vahl.

The roots of this vine are scraped to get a powder which is sprinkled on wounds and cuts.

Buláwln-mantiúg. *Vitex parviflora* Juss.

The Pinatubo pygmies scrape the bark of this tree to obtain a powder which is used as a medicant for wounds. According to Merrill, this plant is called *bulaen* in Pangasinan.

Kópang. *Parkia javanica* (Lam.) Merr.

The dried seeds of this large tree are pounded and the powder obtained is applied to wounds and ulcers.

Dikót-ni-tulisán. *Leucas lavandulifolia* Sm.

The leaves of this common weed are squeezed and the juice that is obtained is placed on wounds. This plant name means the "grass of the bandit." Some of the Pinatubo Negrito groups also call this weed, *támbal-tulisán*.

Duglôh. *Mucuna sericophylla* Perk.

A section is cut from the stem of this endemic vine and the watery sap within the stem is blown onto the wound to stop the flow of blood. When bleeding is very excessive, earth packs are utilized. A nose bleed is stopped with a nose plug made of leaves, or of cloth.

Hawáan-láwak. *Euphorbia rachelii* H. and H.

The juice obtained by crushing the stem and leaves of this herb (accidentally introduced ?) is applied to wounds. As indicated by the local name, the Pinatubo pygmies relate this plant to *hawáan*, *Euphorbia hirta* Linn. The term *láwak* means an "open" grass-covered field," and differentiates the habitat of one of these plants from the other.

Imamáli or páting. *Leea manillensis* Walp.

The bark of this tree is pounded and the powder obtained used as a vulnerary. According to Merrill, this plant is called

amamáli in Cebu Bisaya, and *mali-mali* in Tagalog and Pampangan.

Pakbát. Antrophyum sessilifolium (Cav.) Spr.

The fronds of this fern are pounded to obtain a juice for wounds. No cognates were found.

Tayungtáng. Melastoma polyanthum Blm.

A powder is obtained by pounding the dried leaves of this shrub and this is used as a vulnerary. No cognates were found.

Lamig—"malaria." The Negritos do not recognize malaria *per se*, nor do they realize that the mosquito is the agent, but merely describe this sickness as *lamig*, "coldness," denoting the chills which accompany a malarial infection.

Adiw. Premna sp.

The leaves of this plant are pounded and then rubbed on the back to remove the aching which follows the chills. This plant is called *ariw* in Botolan-Sambal and, according to Merrill, *adiyo* in Tagalog.

Alaktih. Aphananthe philippinensis Planch.

The dried branches of this tree are burned to smudge the body for *lamig*. This tree is called *alaktis* in Botolan-Sambal and Tagalog.

Balángaw. Orozylum indicum (Linn.) Vent.

The bark of this tree is crushed to obtain a juice which is rubbed on the back for the aching accompanying malaria.

Ditá. Alstonia scholaris (Linn.) R. Br.

The bark of this tree is cut into small pieces and boiled in water. The decoction is ingested for malaria and fevers. This plant is widely utilized in the Philippines among the provincial and mountain people for this same purpose.¹⁵

Butót. Dioscorea filiformis Blm.

The tuber of this wild yam, important as a food, is merely eaten with the peeling for malaria, or the broth, *habás*, obtained when boiling the tuber, is drunk for the same purpose.

¹⁵ Cf., Santos, José K. Histological study of the bark of *Alstonia scholaris*. Philip. Jour. Sci. 31 (1926) 415-429.

ikoy-bak'. *Heliotropium indicum* Linn.

The leaves of this common weed are merely rubbed on the back for the aching which accompanies malaria. This local plant name means the "tail of the rat," and in Tagalog, it is called *buntót-león*, the "tail of the lion." The local names are obviously suggested by the form of the flower stalk.

Lagonháy. *Erigeron sumatrensis* Retz.

The whole plant is placed under the sleeping mat, or under the body of a Negrito suffering from malaria. No cognates were found.

Pakó'-anito. *Lastrea leucolepis* Presl.

Cyclosorus dentatus (Forsk.) Ching

Davallia denticulata (Burm.) Mett.

Cheilanthes tenuifolia (Burm.) Sw.

Pityrogramma calomelanos (L.) Link.

These five species of fern, called the "fern of the spirit," are used in two ways as a medicine for *lamig*. The ferns may simply be placed with the sick person, or the fronds may be pounded and rubbed on the back. When sleeping mats are used, the plants may be placed under the mat.

Pakó'-pakó'. *Angiopteris palmiformis* (Cav.) C. Chr.

The Negrito sleeps on the fronds of this huge fern when suffering from malaria.

Talliktik. *Andropogon tortilis* (Presl.) Merr.

The leaves of this grass are boiled in water and the brew is used to bathe the entire body of a person having *lamig*.

TaludáyIn. *Athyrium blumei* (Bergsm.) Copel.

The fronds of this fern are pounded and rubbed on the back for *lamig*. No cognates were found.

Utót-kilát. *Paederia foetida* Linn.

Paederia tomentosa Blm.

The leaves of these herbaceous vines are rubbed on the back for malaria. It is amusing to note that both the latin binomial and the Negrito name denote the odor which the plant has; *utót*, "break-wind," and *kilát*, "thunder."

Lignát—a "relapse" following any kind of illness.

Kalibutbút-mantúg. *Tabernaemontana cumingiana* A. DC.

The leaves of this tree are mixed with the powdered husk of rice, and fried. The medicant is then rubbed over the entire body of a person who has suffered a relapse. This is unquestionably a recently introduced medical practice as indicated by the method of use.

Manaké'dáya or *managlid*—"blood in the excreta" (dysentery, etc.)
Agláu. Premna odorata Blco.

The flowers of this tree are boiled in water and the decoction is ingested for dysentery.

Dúhat or *lumbóy. Syzygium cumini* (Linn.) Skeels

A decoction is made by boiling the bark of this tree in water. The brew of the water and bark is then mixed with the fruit juice of the *katóh*, *Sandoricum koetjape*, or the *súha'*, *Citrus maxima*, and ingested for *managlid*. The latter two plants are of prehistoric introduction.

Húláng. Micromelum inodorum (Blco.) Tanaka

The roots of this plant are chewed and the saliva swallowed when a Negrito is becoming too thin, or has blood in his excreta.

Hábot-báboy. Bulbostylis barbata (Rottb.) Kunth.

All of this small grass, which is called "pig's hair," is boiled in water and the brew ingested for dysentery.

Pawhápi. Anisoptera thurifera (Blco.) Blm.

The fruit of this large tree is boiled in water and the decoction drunk for dysentery. This tree is called *paluhápi* in Botoan-Sambal, and *palosapis* in Iloko, Pangasinan, and Tagalog.

Tanyóng. Vanteria cochinchinensis Lour.

The roots of this vine are first placed in water to soften. Then, they are chewed and the saliva swallowed for dysentery. No cognates were found.

Tibátib. Rhaphidophora merrillii Engl.

The roots of this endemic, herbaceous vine are pounded until they drip with juice and they are then tied around the waist. According to Merrill, this plant is called *tabátib* in Tagalog.

Manduládáya—"spitting blood" (denoting all conditions of hemoptysis, viz., tuberculosis)

Anáo. Livistona sp.

The young shoots of this palm are eaten when a Negrito is spitting blood, is consumptive, and has all of the symptoms which we would call tuberculosis.

Diwalák. Osbeckia chinensis Linn.

The roots of this shrub are chewed and the saliva swallowed for *mandulá'-dáya* (from *dulá'*, "spittle," and *dáya*, "blood").

PánaguringIn or *pánagulingIn. Cratoxylon celebicum* Blm.

The young leaves of this tree are chewed and the juice swallowed for tuberculosis.

Manharáan (Sp.)—"scanty and irregular menstruation."

The following plants are used as an emmenagogue. As a group the Negrito women deny that they use abortives, but a few informants stated that some of the women use these plants for this purpose. The pygmies recognize the relationship between the menstrual periods and impregnation.

Aladiad or *kalaháka. Tetracera scandens* (Linn.) Merr.

The stem of this vine is cut in order to obtain the water which is then ingested by the women to promote the menstrual discharge.

Támbal-dáya. Vernonia cinerea (Linn.) Less.

The whole plant is rubbed on the waist of the women as an emmenagogue. This local descriptive plant name means the "blood medicine."

Daráya'. Andropogon micranthus Kunth.

This grass is merely rubbed on the waist to stimulate the menstrual flow. One woman specifically noted that this plant was used as an abortive. Others, as we have noted, do not sympathize with or admit the use of plants for this purpose. No cognates were found.

Dúhat or *lumbóy. Syzygium cumini* (Linn.) Skeels

If the menstruation is weak, or stops too soon, a decoction is ingested which is made from the boiled bark of this tree.

Kating—"ulcer"*Amúkaw. Musa errans* (Blc.) Teodoro

The young leaf of this wild banana is sometimes used as a covering for ulcers.

Bangkál. *Nauclea orientalis* Linn.

The bark of this tree is pounded to obtain a powder which is applied to ulcers.

Kalót. *Dioscorea hispida* Dennst.

A paste is obtained by scraping the meat of this poisonous wild tuber which is then spread on ulcers.

Kópang. *Parkia javanica* (Lam.) Merr.

The peelings and seeds of the fruit of this large tree are pounded to obtain a vulnerary powder for ulcers.

Danukó'. *Clerodendron minahassae* Teysm. and Binn.

The leaves of this plant are first heated and crushed. The juice extracted is then mixed with coconut oil and applied to ulcers. According to Merrill, this plant is called *danata* in Samar-Leyte Bisaya, and *ku-ku* in Sulu.

Ikoy-tawnáhan. *Ancilema nudiflorum* R. Br.

A whole of this herb is warmed over the fire, and then crushed to obtain a juice. This juice, according to informants, is used to wash ulcerous wounds.

Tayungtáng. *Melastoma polyanthum* Blm.

The leaves of this shrub are pounded, wrapped in a banana leaf, and heated over the fire. Then, the package is squeezed to obtain a juice for washing ulcers.

Nakaydt.—"bitten," that is, poisonous or irritating stings of insects and bites of animals (excluding snake bites)

Alakíih. *Aphananthe philippinensis* Planch.

When a Negrito has been bitten by a mad dog, he burns the leaves of this tree, mixes the ashes with coconut oil, and rubs the mash on the wound.

Anáw. *Livistona* sp.

The leaves of this palm are burned and the ashes that are obtained are placed on the sting caused by spiders, centipedes, and other poisonous insects.

Balikwák or kínah. *Streptocaulon cumingii* (Turcz.) F.-Vill.

When bitten by an insect, the pygmies squeeze the juice from the stem of this vine onto the wound. No cognates were found.

Nanapó'—"pricked by the napó'," a fish with poisonous spines.

The napó',¹⁴⁹ a severe stinging scorpion fish, is common in the rivers on the western slopes of Mt. Pinatubo and was identified from specimens which I collected at Villar, Zambales, by Dr. Albert W. Herre as *Gymnapistes niger* Cuv. and Val. The Negrito frequently encounter this fish while diving.

Awili'. *Ficus haurii* Blco.

The sap from a small branch of this tree is squeezed onto the wound caused by the spines of this fish.

Banayáyu. *Antidesma ghaesembilla* Gaertn.

The Negrito chews the leaves of this tree and spit the mash on the wound. According to Merrill, this plant is called *banayáyo* in Tagalog.

Liúhin-lanín. *Homonoia riparia* Lour.

The leaves of this small tree, common along the banks of streams, are chewed and the mash is rubbed on the wound caused by the scorpion fish.

Napáol—"burned"

Páo'-mantüg or *páo'*. *Mangifera altissima* Blco.

The bark of the "wild mango" is pounded to obtain a juice which is applied to burns.

Yápal-láta'. *Microsorium schneideri* (Christ.) Copel.

Hemionitis arifolia (Burm.) Moore

The fronds of these two ground ferns (*láta'*, "ground") are crushed to obtain a juice for burns. The Pinatubo Negritos also classify two other epiphytic ferns as *yápal*: *pinoy-yápal*, *Drynaria rigidula* (Sw.) Bedd., the "small *yápal*," and *yápal-mantüg*, *Drynaria quercifolia* (L.) J. Smith, the "true *yápal*." No cognates were found for the plant name, *yápal*.

Pahamá—"sun or heat exhaustion" (this term is corrupted from the Spanish, *paena*)

Aladiad or *kalaháka*. *Tetracera scandens* (Linn.) Merr.

The water obtained from the stem of this vine is drunk for *pahamá*.

¹⁴⁹ Scorpion fish which I collected at Polillo Island are called *napó'* by the Dumagat, and *lapó'* by the Tagalog. Cf., Herre, A. W., and A. F. Umali. English and local common names of Philippine fishes. Washington, Fish and Wildlife Service. Circular 14 (1948) 1-128.

Alob-álob. Bridelia stipularis (Linn.) Blm.

A powder is obtained by scraping the roots of this woody vine. The powder is mixed with water and then ingested for sun or heat exhaustion. The Negrito states that this condition will occur, if one works too hard in the clearing of land for planting, or if one is very hot, and is then caught in the rain.

Pakáwün—"paralysis"

Bündt. Derris elliptica (Roxb.) Benth.

Strips of bark from this woody vine, which we have seen is important as a fish poison, are tied around both upper arms and both legs just below the knees, when there is paralysis in these extremities.

Tagililan—A condition in which there is a very sharp pain on either side of the body making it difficult to breathe. An appendicitis attack, pleurisy, etc., undoubtedly come under this conceptual category established by the Pinatubo pygmies.

Gihigik. Ficus blepharostoma Warb.

The growing tips of this tree are pounded, mixed with salt, and the mash applied as a poultice to the side of the body.

Táibóy. Ficus nota (Blco.) Merr.

The leaf of this important tree is rubbed with salt and then plastered against the side of the body.

Támbal-tagililan. Alocasia heterophylla (Presl.) Merr.

The leaf of this herb is merely applied as a poultice to the side of the body.

Taón—"An infant's disease of the peripheral nerves associated with heart disturbances, and hypertrophy of the ventricle" (defined by Dr. M. Busaca, Institute of Science and Technology, Manila).

The Pinatubo pygmies also define *taón* as an infant's sickness and recognize it when the child becomes very weak, and the body discolored (bluish).

Malasibi. Aristolochia sp.

The roots of this vine are powdered by pounding, the powder mixed with the pounded gall bladder of the *biklát* (*Python reticulatus*), mother's milk, and then fed to the infant. Accord-

ing to Merrill, *Aristolochia tagala* Cham., is called *malaubi* in Tagalog and in both dialects the plant name means "like the ubi" (*Dioscorea alata*).

One plant of American origin, *tiantum*, *Hyptis suaveolens* Poir., and one plant of prehistoric introduction, *ungot-ungot*, *Momordica charantia* Linn., as we have noted, are also used to treat this disease.

tarangkido—"cholera" (this term is corrupted from the Spanish)
Ingwál. Flagellaria indica Linn.

The fruit of this vine is burned, the ashes mixed with water, and the brew ingested.

tibá—"constipation"
Bangál. Sterculia foetida Linn.

The seeds of this tree are roasted and then eaten for a laxative, *purgáh* (Sp.).

Ungot. Cocos nucifera Linn.¹⁴⁷

The water, *gatá*, from the nut of this common palm is drunk in considerable portions to relieve constipation. The coconut palm is also called *ongót* in Ibanag.

timbó—"a person who has been attacked by thunder"

The Pinatubo pygmies have great fear of thunder, *kilat* or *kudól* ("lightning" is called *kimát*), and what we characterize as a "lightning attack," they call a "thunder attack." These attacks are caused by the "one," that is, *kilat*, who makes the "noise." If a negrito breaks one of a number of specific *tabus*, a thunder attack is provoked; for example, carrying mixed things in a basket, such as sweet potatoes and squash (also a Sambal belief), picking head lice while it is thundering, teasing or playing with earthworms, laughing at sexual intercourse of either people or animals, and so forth. A supernatural, *tó-*

¹⁴⁷ A few groves of coconut palms, as well as some scattered trees, are found in the Pinatubo area. However, these palms appear only on the abandoned ranch sites of Americans and Sambal who have once lived in the Pinatubo area. This palm is not spontaneous in the Philippines and, insofar as I can discover, the Pinatubo pygmies have never planted it. *Cocos nucifera* should probably be discussed in the section dealing with introduced plants, for it is certainly not native to the Philippines. However, as there is considerable confusion as to its origin, and whether it reached the Archipelago wholly through the agency of man, or was naturally disseminated prior to the movement of man into the Philippines, it is included in this section dealing with native plants.

lan dian, reports these violations to *kilat* (it is amusing to note that the postwar Negritos commonly call thunder, "C. O.," that is, "commanding officer," which is a result of their guerrilla affiliation) and the thunder will punish the person. If the attack is "direct," the individual is *nilanhangán*, and will be killed or die. If the attack is "indirect," *timbá* or *nalantid*, the person may recover with the aid of a medium and by employing medicinal plants.

It is commonplace to hear "reports" from the Negritos to *tólan dian* telling of the misdeeds of people and asking for his forgiveness. This is particularly true during the months preceding the rainy season when there is constant daily thunder. A report to *tólan dian* which I heard an old woman give, shouting at the top of her voice, is set forth below to illustrate this activity:

<i>Añi ya aw-anák ya namikahádí nin kuedt, uláng, kinkál, yanká!</i>	These children, they have mixed the mushroom, shrimp, a banana, and the jackfruit! (a tabu)
<i>Ayubádi ta agláy na nix emamán ya mamikahádí bayót</i>	Nevermine, they will not mix those things again. (free translation)

As an added precaution against thunder attacks, the Pinatubo pygmies employ a number of charms and magical devices. The most unusual of the charms used are ancient Neolithic stone tools, called *gúgot kilat*, "thunder teeth," which they have accidentally discovered.¹⁴⁸ According to the traditional beliefs of the pygmies, these are always found at the bases of trees

¹⁴⁸ While in Zambales among the Pinatubo Negritos, I saw only one stone used as a charm which was very probably a Neolithic implement. Others that I saw which were said to be "thunder teeth" were merely unusually shaped rocks. However, while with Professor Fred Eggan and Mr. and Mrs. Hans Steiner during December, 1949, in the two Negrito villages directly behind Fort Stotsenberg, Pampanga, I saw thirteen excellent stone tools of Neolithic origin which were being used by these Negritos as *dating-dating* charms, in the same manner as employed by the Pinatubo pygmies on the other side of Mt. Pinatubo. I was able to obtain eight of these stone implements which are now in the collection of the Philippine National Museum (*cf.* Plate 15). The Stotsenberg Negritos also believe that these stone tools are an effective medicine for the common cold. They are merely placed in the mouth momentarily, and the action repeated many times throughout the day, until the cold disappears.

The belief that Neolithic stone tools are "thunder teeth" or "lightning teeth" is widespread in the Philippines. (*Cf.*, Beyer, H. O. Outline review of Philippine archaeology by islands and provinces. *Philip. Jour. Sci.* 77 (1947) 219, 281, 311, 327, and in Borneo, p. 340.

which have been struck by "thunder," or in the intestines of animals which have been hit. These implements are highly prized by the pygmies, for they believe that if they are kept within the dwelling, "thunder" will not strike the house. In addition, the bones of monkeys are burned in the hearth of the dwelling during thunder storms and many dwellings have two pieces of interlocked bamboo set on the peak of the roof at both ends of the dwelling, as a protection against a thunder attack. This latter magical device is called *hinalhál* or *pangáw*.

When a person is believed to be *timbl'*, a number of plants are utilized by the "medicine-man," or by the medium, to speed the cure.

Imamálí. Leea manillensis Walp.

The leaves of this plant are pounded and then rubbed over the entire body, beginning at the feet, of the person who has been attacked by thunder. The body is rubbed progressively upwards to force the sickness out at the crown of the head.

As we have noted, a number of plants of American origin, as well as of prehistoric or historic introduction from other regions, are also used for this purpose, and in the same manner.

Talimádn. Acalypha angatensis Bico.

A branch from this tree is used to whip the entire body of a Negrito who is *timbl'*.

Tinika'itan—"snake bite"

Kwán-kwán-báboy. Pollia sorzogonensis (E. Meyer) Steud.

The leaves of this herbaceous plant are crushed and then rubbed over the bite. This plant name means the "pig's *k-wán-kwán*." The Pinatubo pygmies also call two other plants by this generic term: *k-wán-kwán-mantúg*, *Cyanotis moluccana* (Roxb) Merr., the "true *k-wán-kwán*," and *k-wán-kwán-binágbag*, *Pollia thyrsiflora* (Blm.) Steud., the "*k-wán-kwán* of the forest."

Dalákít. Anomum sp.

The young leaves of this plant are masticated and the mash rubbed on the bite.

Pinoy-nito'. Lygodium flexuosum (L.) Swartz.

The roots of this common fern-vine are chewed and the masticate spit onto the snake bite. As we have noted, *Lygodium circinnatum* (Burm.) Sw., is called *nito'-mantúg*, the

"true nito'," whereas, the above plant name means the "small nito'."

Táib. *Saccharum spontaneum* Linn. subsp. *indicum* Hack.

The young shoots of this very common grass are chewed, and the mash also spit onto the bite.

Tiang—"toothache" (tílang, Bot.-Sbl.)

The roots of the following plants are boiled in water and the decoction used as a mouthwash for toothaches:

Alipungpung. *Borreria articularis* (Linn. f.) F. N. Mill.
Hedyotis sp.

Bítang-bítang. *Merremia hastata* (Desr.) Hallier f.

Liúhin. *Ardisia pyramidalis* (Cav.) Pers.

Liúhin-laním. *Homonoia riparia* Lour.

Matán-uláng. *Breynia rhamnoides* (Retz.) Muell.-Arg.

Matán-uláng-ya-kinio. *Phyllanthus* sp.

Tangkiko'. *Solanum cumingii* Dunal

A number of other plants are also used as medicines for toothaches.

Dalapúyn. *Loranthus philippensis* Cham. and Schlecht

The stem of this parasitic plant is scraped to obtain a powder which is then boiled in water and used as a mouthwash. No cognates were found.

Malauntún. *Loranthus haenkeanus* Presl.

The small branches of this vine are boiled in water and the decoction used as a mouthwash. This is a local, descriptive plant name.

Támbal-túang. *Oldenlandia diffusa* (Willd.) Roxb.

Oldenlandia corymbosa Linn.

Lindernia sp.

These three weeds are all called by the same descriptive name meaning "toothache medicine." The whole of each plant is merely boiled in water and the brew used as a mouthwash.

Utanbíta—A stomach-ache caused by the presence in the intestine, bíta, of a spirit of the snake, áten. This sickness can only be identified and removed by the medium.

Kuwán-kuoán-mantúg. *Cyanotis moluccana* (Roxb.) Merr.

During a curing-séance, the medium places the whole of this herb in a bowl of water. Then with accompanying ritual, the

medium captures the snake spirit, transfers it to the bowl, and relieves the patient of the intense pain.

yūkyūk—An "enlarged abdomen" common among the Negrito children and probably due to parasitic infections, chronic malaria, malnutrition, beri-beri, etc. (called *bak'bi* in Bot.-Sbl.).

Apátot. Morinda bracteata Roxb.

The leaves of this tree are applied to the enlarged abdomens of children as a poultice (see Plate 10, fig. 1). According to Merrill, this plant is called *apatút* in Tagalog, and *apatút-a-bálang* in Iloko.

Banglit. Scleria scrobiculata Nees.

Negrito children eat the young tops and fruit of this sedge for *yūkyūk*. No cognates were found.

Pinoy-banglit. Scleria lithosperma (Linn.) Sw.

The young tops of this sedge are also eaten by the children for an enlarged stomach. As noted, the term *pinoy* means "fine" or "small"; therefore, this plant is the "small *banglit*." This is another instance in which the botanical classification system of the Pinatubo pygmies does incidentally show true floristic relationships.

Bukyót. Dioscorea bulbifera Linn.

A powder is obtained by scraping the axial fruit of this vine and the powder is rubbed on the abdomen. In general, this is considered to be the best of the medicines for an enlarged abdomen.

Pakbút. Microsorium longissimum (J. Sm.) Fee
Antrophyum sessilifolium (Cav.) Spr.

The fronds of either one of these two ferns are merely placed on the stomach and held in position with a cloth band.

MISCELLANEOUS USES OF MEDICINAL PLANTS

Appláy. Quisqualis indica Linn.

The fruit of this vine is eaten to kill intestinal worms. The short, white intestinal parasites are called *baktí'*, but the generic term for intestinal worms is *buvátí'* which also means "earth-worm." No cognates were found for this plant name.

Balikwáh or *línah*. *Streptocaulon cumingii* (Turcz.) F.-Vill.

Old people tie the stem of this plant around their waists in order that "Their blood will become strong."

Bambán. *Donax cannaeformis* (Forst. f.) K. Schum.

The young shoots of this plant are sliced, placed in water, and soaked for at least one hour. The brew is then ingested to lower fevers. This plant is called *bambán*, *banbán*, or similar cognates, in many Philippine dialects and is a common place name throughout the Philippines.

Kwán-k'wán-mantúg. *Cyanotis moluccana* (Roxb.) Merr.

The dried leaves of this herb are pounded to obtain a powder which is rubbed on aching knees.

Dangláh. *Vitex negundo* Linn.

The leaves of this tree are applied as a poultice against the forehead and/or temples as a febrifuge.

Dulimán. *Stenochlaena palustris* (Burm.) Bedd.

The strong stem of this fern vine is tied around the waist, when there is aching in that area.

Dulít. *Canarium* sp.

The sap obtained from the trunk of this tree is mixed with a powder obtained by pounding the wild pepper—the latter is of American origin—and then rubbed on areas of the body which ache or are bruised.

Labtáng. *Anamirta cocculus* (Linn.) W. and A.

The stem of this vine is cut into small pieces, placed in the native "wines," and drunk to make the blood become strong. This is primarily an activity of the lowland Sambal and of some of the acculturated Negrito groups.

Mahoplák or *balikwán*. *Grewia eriocarpa* Jesus

When a pygmy is "burning with fever," the bark of this small tree is tied around the waist.

Pamikiwán-mantúg. *Mucuna nigricans* (Lour.) Steud.

The stem of this vine is pounded, and then tied around the waist for a "sick body."

Other medicinal practices.—As we have seen, medicines are generally derived from plants, however, a few other medicinal practices were encountered.

To remove a "style," *galútoy*, the Negritos "frighten it" with a bolo, or with a hot ember, by dashing the bolo or ember towards the eye. Necklaces, *úno*, worn for protection against the evil spirits and sicknesses in general are also made out of the long bones of monkeys (see Plate 15), the upper and lower jaws of the giant rat, *buñit* (*Phocomys pallidus*), and the tails of civets. All of these necklaces are commonly encountered. Deer horn is scrapped, the powder placed in water, and the decoction ingested to lower fevers. The dung of the deer is dried, burned, and the ashes placed in water. This brew is drunk when a Negrito is suffering from sun exhaustion.

The bones of the large fruit bats are commonly made into a necklace, and worn when a Negrito has a cold. In addition, the hair of the fruit bats is burned and the ashes are rubbed on the neck. This is also believed to be an effective medicine for colds. The backbones of the larger snakes are strung as a necklace, and worn to protect the person from all types of sickness. As we have noted, the gall bladder of the python is considered to be a powerful medicine. One informant stated that the earthworm is burned, the ashes placed in water, and the decoction drunk for goiter. For dizziness, the pygmies burn the heads of lizards and eat the charcoal.

A brief comparison of medicinal practices in the Philippines.—Unfortunately, the detailed studies available of Philippine medicinal plants do not denote the group or groups which utilize a plant, or the specific methods of use. Nevertheless, even a cursory study of Guerrero's works¹⁴⁹ establishes the basic similarity of the medicinal practices of the Pinatubo Negritos with other Philippine non-Negrito people. Moreover, while pursuing studies of medicinal plants among the Polillo Dumagat, the Polillo Tagalog, and the Ipági Egongot, I was immediately struck by the fundamental likeness of the medicinal practices of these latter ethnic groups with the Pinatubo pygmies.

The following medicinal practices and beliefs found among the Pinatubo pygmies are also commonly encountered among many Philippine non-Negrito people: (1) the belief that spirits are the primary cause of sickness, (2) the curing-séance, (3) the use of saps for dermatosis, (4) the smudging of the body

¹⁴⁹ Guerrero, L. M. Medicinal uses of Philippine plants. Philippine Bureau of Forestry, Bull. 22 3 (1921) 149-246; Notes on Philippine medicinal plants, a mimeographed copy (1931) of the latter can be found in the Library of the College of Pharmacy, University of the Philippines.

for beri-beri, (5) ingestion of decoctions made from plants for coughing, (6) the use of pastes made from plants as poultices for boils, (7) washing of the eyes for eye diseases, (8) ingestion of brews made from the barks and roots of plants for abdominal disturbances, (9) the use of leaves as poultices for a simple headache, (10) powders made of pounded bark for wounds and cuts, (11) sleeping on specific plants for various kinds of sickness, (12) chewing roots for hemoptysis, (13) massaging the body with leaves or a mash made from plants, (14) the use of necklaces, arm and leg bands, for sickness in general, and (15) the use of charms, bezoar stones, etc., as a protection against sickness. There is an intrinsic likeness in the medicinal practices, and very probably in the medicinal plants utilized, throughout the Philippines.

It is possible that future comparative work will illuminate medicinal plants which are only utilized by Negrito groups, or that some of the plants utilized by the Pinatubo Negritos for medicinal purposes are unique, but I doubt whether any methods of use exist which are confined solely to the Pinatubo Negritos and/or to other pygmy groups.

PLANTS ASSOCIATED WITH PREGNANCY AND CHILDBIRTH

Bánag-mantióg. Smilax bracteata Presl.

The roots of this vine are boiled in water and the brew is ingested by the mother immediately following the childbirth to stop the flow of blood, that is, the postpartum hemorrhage. According to Merrill, this plant is called *banág* in Iloko, Tagalog and Igorot, and *barág* in Pampangan.

Kalangyá'. Abrus precatorious Linn.

The pygmies boil the stem and leaves of this vine and then use the mixture to bathe a newly born infant, if it appears to be weak. It is believed that this will make the baby strong. The Tagalog and Pampangan call this plant *kasasága*.

Kawáyan-kiling. Bambusa vulgaris Schrad.

The epidermis of this prehistorically introduced bamboo is boiled in water and the brew used to wash the body of a woman after childbirth to help her recover quickly.

Lakatán. Musa sapientum Linn.

The roots of this domesticated banana, also introduced, are boiled in water and the decoction drunk by women to stimulate pregnancy.

Lipah. Laportea meyeniana (Walp.) Warb.

The watery sap obtained from the trunk of this tree is ingested by the women to increase the supply of breast milk. According to Merrill, this tree is called *lipá* in Tagalog, *lopá* in Pangasinan, and *lupá* in Iloko.

Müngiw or *tagáibag. Clerodendron intermedium* Cham.

The leaves of this plant are crushed, placed in water, and the brew used to bathe very weak babies so that they will become strong. No cognates were found for the plant name, *müngiw*.

Payúyut. Dianella javanica (Blm.) Kunth.

The roots of this plant are boiled in water and the brew ingested by the mother following childbirth to help her become strong. No cognates were found for this plant name, but among the Polillo Dumagat and Tagalog groups *payúyut* is the name of a bird (*Motacilla c. caspica*) defining its peculiar perching actions, and *uyót* or *uyát* is a common term in many Philippine dialects for "sexual intercourse." There is some semantic relationship between the use of this plant and the widespread meaning for the word-base.

Tambó'. Phragmites vulgaris (Lam.) Trin.

Phragmites karka (Retz.) Trin.

Old men scrape the shoots of this grass and rub the shavings on the penis to obtain potency. The penis of the deer is roasted and eaten for the same purpose. This plant name appears in Tagalog and in other dialects.

Tü:k-tawnáhan. Commelina benghalensis Linn.

Pregnant Negrito women rub this whole plant to their waists to hasten and facilitate childbirth. The plant name means the "eel's ear."

PLANTS USED IN THE CONSTRUCTION OF DWELLINGS, AND OTHER STRUCTURES

The dwellings, *balí*, of the Pinatubo pygmies, as well as non-living structures, are singularly crude, and are built of materials which are the handiest. There is no pattern of organization of the houses within a village, or is any type of environmental setting distinctly preferred. A village can spring up almost anywhere. Its location is largely determined by its proximity to good slopes for clearings and to the water sup-

ply. In general, the Negrito dwelling is built under pressure, a symbol of a restless spirit, as a shelter from the rains and hot sun providing a place to occasionally eat, sleep, and talk, but not to *settle*! The Negrito does not have the stable home life found among the surrounding people, for as we have noted, the men and boys frequently spend more time away from their "homes" and villages visiting, hunting, and fishing, than in the household. As would be expected, the Pinatubo pygmies make no attempt to beautify their dwellings, and pride in the methods of construction (similar to the attitudes displayed in making a bow and arrow) is wholly lacking. The semisedentary habits and values of these pygmies are dramatically reflected in the manner in which they build, and treat, all structures.

At present, the Pinatubo Negritos build eleven different structures, each having a specific name, and representing a number of distinct functions. The great variety of the dwellings and non-living structures is undoubtedly due to the relatively recent and intensive social contacts with the surrounding lowlanders, that is, to acculturation. In most areas of Pinatubo, the uniformity of styles which Reed noted¹⁰⁰ as occurring 45 years ago has disappeared. In the village of Kamastili, near Villar, a bewildering variety of dwellings meets the eye; however, in the deepest villages some uniformity still exists. Even the beliefs with regards to the construction of the dwellings are also typical of many lowland and non-Negrito people. A day or so before the dwelling is to be built, the Negritos place a tall cross at the site. If in the following nights dreams are interpreted as being bad, the chosen site is abandoned, but if the dreams are believed to be favorable, the family will proceed with the construction. If the dream is bad, but it is also dreamt that the cross moved in a specific direction, the house will be built in that direction. The ground is tested with the hand in the early morning at the prospective site of the dwelling. If the ground is warm, it would be disastrous to build there, for the future occupants of the dwelling would be frequently ill. If the ground is normally cool to the touch of the hand, the site is favorable. A number of informants also stated that the doorway should face to the East (this is also believed to be the best condition for the clearings), but in actual practice this custom is now ignored. Of course, the Negritos will never build their dwellings in areas believed to have evil spirits, or

¹⁰⁰ Reed, W. A. *Negritos of Zambales*. Manila (1904) 39.

near environmental objects believed to be the propetry, dwellings, etc., of spirits (*cf.* the discussion of "dangerous plants"), and this is, I believe, an older and more typical behavior of the Pinatubo pygmies. The other beliefs concerning construction which I have encountered, including those enumerated above, are more characteristic of sedentary people planning permanent living sites. The Negritos, even today, move and build on the spur of the moment and rarely have time for "testing" a favorable location.

Based upon the statements of the oldest informants, as well as upon Reed's observations, the dwellings and non-living structures of the Pinatubo pygmies can be classified into two groups; (1) older and more typical Negrito structures, and (2) relatively modern structures which are a product of recent outside influences and normally built by the more acculturated pygmies.

Three types of dwellings appear to be the older and more typical forms built by the Pinatubo pygmies the *hawóng*, the *tinangúb*, and the *dalupán*. The term *hawóng* really describes a "temporary structure," that is, one which is built for overnight stops while hunting, fishing, or travelling, and huts built adjacent to clearings to afford protection for the workers from the hot mid-day sun and strong rains, rather than a specific form of dwelling. Nevertheless, the *hawóng* never has a living platform and among most of the Pinatubo pygmy groups is usually constructed in the fashion of a "puppet"; a single ridge pole supported by forked limbs forming two sloping sides with one or both ends open (see Plate 11, fig. 1). Lean-to's, also called *hawóng*, are sometimes built along the rivers, but are not of specific or systematic construction such as those built by the Dumagat and Negrito groups on the east coast of Luzon (see Plate 12, fig. 1).

The *tinangúb* is the most usual type of dwelling encountered today (see Plate 12, fig. 2). This living structure has a peaked roof, but is walled vertically on three sides only. The fourth side is formed by one side of the roof sloping to the ground. A low sleeping platform is built within the half of the dwelling formed by the vertical walls and the fire-hearth is placed on the ground under the long sloping roof.

A unique dwelling built by the Pinatubo pygmies is the box-like *dalupán* (see Plate 11, fig. 3). This dwelling has no eaves, giving it a peculiar appearance and normally it is walled on three sides only. In conversations, Professor Beyer has noted that he saw this unusual type of living structure thirty

years ago among the Negrito groups directly behind Florida-blanca, Pampanga (also in the Zambales Range), and further noted that he has not encountered this form of dwelling among other Philippine people.

Two non-living structures are commonly built by the Pinatubo pygmies, the *damáda'* and the *pála-pála*, which can also be considered typical. The former is a four posted shed with a single-sloping roof, and is used to house the bamboo forge. The *pála-pála* is a larger, flat-roofed shed built principally for ceremonial use, such as for a *talbúng* or for a marriage, as well as at present for growing the climbing squashes, the beans, and *Momordica charantia* Linn. The use of the *pála-pála* as a trellis is confined wholly to the more acculturated pygmy groups.

Six other structures are now found among various Pinatubo pygmy groups which are of relatively recent, or very recent, introduction, and are basically similar to constructions found among the lowland Sambal. The *kinatáv* is a better built dwelling which has small, sloping roofs at the ends. The main roof beam is shorter than the overall length of the floor making these small roofs at the ends necessary. Among the Christian Sambal in the Municipality of Botolan, this dwelling is called *binubóng*; nevertheless, the Negritos' term for this structure is not unique, for *katáv*, the word-base of *kinatáv*, means "roof-rafter" in Botolan Sambal. Four types of dwellings are built in which the main roof beam is the same length as the floor: the *binatankás* (also meaning an "unfinished dwelling" from the word for "skeleton," *balangkás*, with an infix, *in*, meaning "like"); the *kinamadín* (from the wordbase *kamadín* which is a type of peaked-roof shed); the *kinamalig* (from *kamalig*, "granary," meaning "like the granary"); and the *timpó*. In these four constructions, there are no small roofs at the ends of the dwellings, as the main roof beams are the same length as the floors, and all have four vertical walls. The *timpó* is differentiated from the others in that the rafters on both slopes of the roof are made from continuous lengths of bamboo which are bent at the peak of the roof to form the rafters for both slopes. As built by the Negrito, all of these dwellings appear somewhat different from similar types built by the lowlanders. The house posts are shorter, the living platforms built closer to the ground, which in most cases makes a ladder unnecessary, and *Nipa fruticans* Thunb., called *sasá'* by the Negrito and the Sambal, a commonly used material for roofing and walling among

the lowland people, is not available to the Pinatubo pygmies. Moreover, the houses of the Negritos, regardless of the type of construction, are always more crudely built. One other type of shed, the *kamadín*, is also of recent introduction. This differs from the more typical forms of sheds, the *daméda'* and *pála-pála*, in having a peaked roof.

To facilitate the discussion of the materials used in the construction of dwellings and other structures, the plants used are set forth below under specific topics, and a few general remarks are made about each of the categories. In general, the types of plants used in the constructions will be governed by the availability, and differences in the flora within the Pinatubo area. Always there is a conscious selection of plants to be used, though, as in the case of house posts, a much larger number of plants are potentially useful.

Plants used for house posts and for framing.—If the large bamboo *kawáyan-mantúg*, *Bambusa spinosa* Blm., is available, the house posts, as well as the entire frame of the dwelling, may be made of this. However, in much of the Pinatubo area, this bamboo is difficult to obtain, and in the larger dwellings, the floor and wall supports, the rafters, and house posts, are preferably made of the straight trunks and limbs of small trees. Temporary shelters are most frequently built of branches, because of the advantages in constructing with forked limbs.

The following plants are used in making the house posts and frames of the dwellings by the Pinatubo Negritos, as well as by the lowland Sambal:¹⁵¹

Agay-agay. *Bridelia glabrifolia* (Muell.-Arg.) Merr.

Alawóy or *palukápok*. *Vernonia vidalii* Merr.

Amúngan. *Siphonodon celastrineus* Griff.

AmúngIn. *Pygeum vulgare* (Koehne) Merr.

AnabáyIn. *Artocarpus cumingiana* Trec.

Banáy-banáyIn. *Radermachera pinnata* (Blco.) Seem.

¹⁵¹ The following nomenclature for parts of the house is applicable to any type, from the crudest temporary shelter to the better built dwellings, and all of the terms are similar to those employed by the lowland Sambal: *tadák*, "house posts"; *tubó-tubó*, "the main house post supporting the ridge pole"; *pampudán*, "main roof beam of ridge pole"; *kikang*, "primary floor braces secured to the house posts"; *ayakólan*, "floor braces lying on the *kikang*, and to which the floor slats are tied"; *kayahín*, "rafters"; *pandúg*, "vertical braces for the walling"; *kípít* or *baláti*, "horizontal wall braces"; *manán*, "the tie-beam running horizontally around the dwelling at the top of the house posts, and providing a support for the lower end of the rafters."

- Bandic-lalaki*. *Neonauclea bartlingii* (DC.) Merr.
Báyoy. *Pterospermum obliquum* Blco.
Bubóh. *Litsea* sp.
Karáll. *Albizia procera* (Roxb.) Benth.
Kawáyan-kiling. *Bambusa vulgaris* Schrad.
Kawáyan-mantúg. *Bambusa spinosa* Blume.
Hakít. *Terminalia* sp.
Malapatingün. *Tarennia incerta* Koord. and Val.
Malauwiha or *buldwin-áho*. *Vitex threzerianinowii* Merr.
Palikayáwin. *Linociera ramiflora* (Roxb.) Wall.
Pintúg. *Artocarpus rubrovenia* Warb.
Tiplé. *Ficus odorata* (Blco.) Merr.

Plants used for roofing.—The roofs of the Negrito dwellings are usually made of thatch, *atíp*. The thatch is obtained by cutting and by drying in the sun sizable quantities of the stems and leaves of one of the following three grasses:

- Talák*. *Themeda gigantea* (Cav.) Hack.
 Local names: *takik* (Bon.); *teldak* (Pang.)
Táib. *Saccharum spontaneum* Linn. subsp. *indicum* Hack.
Yábot. *Imperata exaltata* Brongn.
Imperata cylindrica Beauv.

The *yábot* is the common, widely used "kogen," and makes the most satisfactory thatch.

It is not unusual to see dwellings constructed wholly of bamboo; posts and framing, flooring, walling, and even the roofing. Roofing of bamboo, usually *bo'-mantúg*, *Gigantochloa levis* (Blco.) Merr., is made by splitting the lengths of bamboo into halves lengthwise, knocking out the node wallings, and then facing and overlapping the halved bamboos (see Plate 11, fig. 2). The fan-shaped leaves of the *anáw*, *Livistona* spp., are also used for roofing, particularly by the Negritos living on the northwestern slopes of Mt. Pinatubo where this palm is very common. The leaves of the rattan *láwin-naudit*, *Calamus* sp., are on occasions used for roofing material. When available, the large leaves of the wild bananas are used for roofing the temporary shelters, for construction with this medium is simple and quick. This latter type of roofing is called specifically, *lugpáw*. I have seen many *tinangúlb* types of dwellings roofed with the dried sheath of the banana stalk (see Plate 12, fig.

3). Many different materials are used for roofing depending upon the type of construction, and the availability of particular plants.

Plants used for walling.—A great variety of materials for walling are also utilized by the Pinatubo Negrito, but among the deeper groups the most common medium is the dried sheath of the banana stalk (see Plate 12, fig. 3). Many strips of the dried sheath are folded over horizontal rows of wall braces so that each higher row overlaps the next lower row.

In the better built Negrito dwellings, and among the lowland Sambal, walling is made by partially splitting the large bamboo *kawayan-mantûg*, *Bambusa spinosa* Roxb., into board-like lengths which, when flattened, are about 35 cm wide. These bamboo "boards" are placed vertically and held in position by wall braces. This type of walling has a specific name, *tayag-tâl*. Smaller bamboos, usually *bo'-mantûg*, *Gigantochloa levis* (Blco.) Merr., are halved and overlapped face to face, to form an excellent walling called *taûb*. This latter type of walling is also placed vertically and is held in position by horizontal wall braces. A walling, called *abûg*, is made by stacking whole bamboos, one on top of another, which are held in position by upright braces at the corners of the dwelling (see Plate 11, fig. 2). Finally, the large grasses noted above as being used for thatch, are on occasions employed for walling.

The general term for all types of walling, among both the Pinatubo Negritos and the lowland Sambal, is *lingling*.

Plants used for flooring and for tying all parts of the Negrito structures.—The temporary shelters and the sheds have no living-platform, but all other living structures have flooring. In the better dwellings, the flooring, *hiil*, is made of neatly split and trimmed bamboo, but in the cruder homes the flooring is constructed of only small, straight branches, or even of whole bamboo.

Split rattans are normally employed for tying all parts of the dwellings and other structures (*cf.* list of rattans used for tying on p. 299), but for the temporary shelters any handy and strong vine is used.

PLANTS EMPLOYED IN THE CONSTRUCTION AND USE OF THE FORGE

The most startling complex encountered among the Pinatubo pygmies is the presence of the vertical, double bellows, bamboo forge called *pindáyan* or *pihákan* (the latter from the Sambal term for "iron," *páhak*). Although the forge would appear to

be a too advanced and complex a trait to be found among a semisedentary Negrito group, there is considerable evidence to show that the Pinatubo pygmies, specifically the groups in the Villar and Baklay areas, have possessed this tool for a considerable period of time.

Today, and in the memories of the oldest men, the Pinatubo pygmies manufacture over fifty varieties of metal projectile points all of which have either a specific or descriptive name. Some of these metal points which have barbs, *himá'*, placed at right angles to the blade of the point can only be made by means of the forge and, as a matter of fact, by only a few skilled smiths. These points, such as the *binulilat* (from *bulilat*, a "rattan," with an infix, *in*, meaning "like the thorns of the *bulilat*"), have been traded throughout the entire Zambales Range among the various Negrito groups and everywhere are highly prized (cf. Plate 7, fig. 1). I have collected the beautiful *binulilat* in Bataan among the Dinalupihan-area Negritos and although they admit the point was not made by them, they are not aware of its origin, merely stating that the arrow (and point) was inherited. The same arrow is found in Tarlac among the Aburlin pagans and still farther north among other Negrito groups, but these latter people being closer geographically to the Pinatubo pygmy groups know that these points were all made in the forges of the Pinatubo Negritos, particularly, in the deeper Baklay area (see Map.) The pygmies behind Fort Stotsenberg, Pampanga, also obtain this point from the Pinatubo Negritos. Throughout the entire Zambales Range, this point is called *binilang* or *binulilat*. It is apparent that the forges of the Pinatubo Negritos have turned out thousands of metal projectile points over a considerable period of time and that these points have diffused throughout the entire Zambales Range giving a similar cultural pattern.

I have contacted numerous smiths among the surrounding lowland people to check on the possible extraneous origin of the typical Negrito points. One smith in Botolan, Zambales, the nearest lowland town where forges are found, has been using the very same forge continuously for the past fifty years. This forge, however, is the horizontal, single bellows, double action type, which is apparently of recent Chinese origin. He had never seen or heard of the type of forge employed by the Baklay and Villar Negritos. This smith had made many spear points

in the past, as well as a few arrowpoints, but never the types of projectile points which are typically Negrito.

It is possible that the forge was introduced to the Negritos by the Ilokano immigrants of southern Zambales, as this same type of forge is widely used by the Ilokano, and as is suggested by the comparative nomenclature of parts of the forge. However, the Negritos in the Sawang and Aglao areas (see Map) who have been most influenced by the Ilokano, do not possess this forge. I presently believe that the Pinatubo pygmies were using this forge before the Ilokano settlements arose in southern Zambales.

A sizable number of traditional beliefs govern the use of the forge. Although, as we have noted, much of the customs and traditions of the Pinatubo pygmies are closely related to the Botolan Sambal, I have not been able to find similar beliefs among the latter people. Running on either side of the forge, from the outer edge of the shield to the outer edge of the pistons, are a number of aligned stakes (see Plate 13, fig. 4). The pygmies believe that if a person or animal passes between the shield and the bellows, particularly when the forge is working, that the trespasser will die. To prevent such an occurrence—small children are the most likely victims—the stakes are placed to inhibit any passage.

When the forge is being worked, no one is allowed to catch shrimp. If shrimps are caught, the smith or the fisherman is likely to be struck by thunder. It was the opinion of one Negrito that the similarity of the color of the carapace of the shrimp to the glow of the coals had stimulated this belief. The pygmies also state that a person will be attacked by thunder if the wood which has been gathered for use as charcoal with the forge, is employed instead for cooking purposes, or even if the fire pit of the forge is used to cook in. When a smith is pounding iron, he is very careful to see that no one passes in front of him. If this should occur, something "dangerous" will happen to the smith, or to the person breaking the *tabu*. While the forge is being worked, laughter is forbidden either by the smith, the helpers, or the spectators. Laughter is strongly *tabu* among the Pinatubo pygmies in the presence of sexual intercourse, or in any activity which simulates coitus. In this instance, of course, it is the action of the pistons.

The smith's profession is the most skilled trade found among the Pinatubo pygmies and carries with it considerable social status. The actual metal working is a man's job, although

women and children may pump the pistons. The smiths do not work systematically, but only when there is freedom from other activities, leisure time because of the rains, or a specific demand for their products. Moreover, the smith is not a specialist, that is, confining his labor solely to the forge, but carries on the usual daily activities of the men in his group.

All metal is, and was, obtained from the surrounding lowland people, but as we know that the Filipinos were making iron prior to the Spanish conquest and using this same type of forge, it is a possibility that the Pinatubo Negritos were also working metal points and bolos during the very late "protohistoric" period.¹²² I have reported an extensive procelain site in the very heart of the Negritos' territory, at Purákin near Ugik, and the surface collections of sherds from this site were identified by Professor H. Otley Beyer as 13th to 15th century Yuan and Early Ming wares.¹²³ If archaeological investigations could be made in the Pinatubo area, in this site as well as in others which I have subsequently heard of, it might be possible to define quite accurately the length of time in which the pygmies have used and made metal tools and arrowpoints. Part of the Negritos' territory has been subject to intensive outside influences by more developed people for a long period of time, as the Capas Trail, one of the few natural passages through the entire Zambales Range, passes directly through the territory of the pygmies. I feel certain that the Pinatubo Negritos have possessed the forge for a few hundred years; certainly, from the early or middle Spanish Period, and possibly earlier.

The forge used by the Pinatubo pygmies is simple in construction and is well adapted to even a semisedentary life (see Plate 13, figs. 1 and 4). It may be constructed and be operating in one or two days depending upon the availability of the necessary materials and, except for the shield, is portable. The fact that this forge is adjustable to the mobility of these pygmies also argues that it may be of considerable antiquity among them. The two upright bellows are each made of approximately two and one-half internodes of the large bamboo, *kanadyan-mantág*, *Bambusa spinosa* Roxb., and called *kimog*

¹²² Beyer, H. Otley. Filipino art and culture of Pre-Spanish time. Philippine Saga, chap. 8 (1947) 33, plate 104 for pre-Spanish, iron-age weapons.

¹²³ Beyer H. Otley. Outline review of Philippine archaeology by islands and provinces. Philip. Jour. Sci. 77 (1947) 225.

from the Sambal term for "hollow." The upper two nodes, which form the natural partitions within the bamboo, are knocked out, forming an excellent piston chamber. The pistons, *ku-hodhód*, are carved out of a hard wood, and provided with feather gaskets, the *papulók* (see Plate 13, figs. 2 and 3). The small air ducts, called *angyib* (also the term for "blowpipe"), leading from the base of each bellows to the stone shield, are invariably made of the small, hollow bamboo, *bikaw-mantúg*, *Schizostachyum fenizii* Gamble. The stone shield is normally rectangular in shape, and has a small hole at ground level through which the air passes from the two blowpipes and fans the fire. This shield, *ibúng*,¹⁵⁴ protects the bellows and blowpipes from the intense heat of the charcoal pit. As the pistons are pumped alternately by the helper, a strong current of air is provided. Sometimes a platform is provided on which the person pumping the pistons may sit. The construction of this forge is almost identical to those used by many other Philippine people.¹⁵⁵

For charcoal, the Pinatubo Negrito uses only the following woods:

Agay-agay. *Bridelia glabrifolia* (Muell.-Arg.) Merr.

Aladóng. *Trema orientalis* (Linn.) Blm.

Anahígi. *Albizzia saponaria* (Lour.) Blm.

Balokandóg. *Chisocheton cumingianus* (C. DC.) Harms

Local name: *balukandóg* (Tag.)

Boyngáh. *Wendlandia luzonensis* DC.

Panagulingin. *Cratoxylon celebicum* Blm.

Local names: *panagulingon* (Tag.); *paguringon* (P. Bis.);

paguringan (Mag.). The local names for *Cratoxylon* spp., have unquestionably been derived from the widespread use of these woods as charcoal, for the common word-bases *uling*, *uring*, etc., mean "charcoal."

I doubt whether there is another Negrito group in the Philippines that makes and utilizes the forge. It is not a characteristic tool of Philippine pygmy groups. However, the forge is an important part of the contemporary culture of the Pinatubo Negritos and the trait is apparently quite old. Any histo-

¹⁵⁴ The term *ibúng* in Iloko designates the base for the bellows of this same type of forge and is obviously related to the Negrito term, *ibúng*. This latter word is not known to the lowland Sambal, the Tagalog, or Pampangan, but the rest of the nomenclature of the Negritos' forge is similar to that employed by the Sambal even though their forge is of a different construction.

¹⁵⁵ Cf. Christie's, *The Subanuns of Sulu* (Davao Bay, Manila, (1909) Plate 13.

rical-functional discussion of these people must necessarily treat of this tool.

PLANTS USED IN THE BOLO COMPLEX

The presence of the forge has also enabled the Pinatubo Negrito to make many varieties of bolos and knives each having specific functions and name, but which are called in general *útak* (see Plate 9 for representative types of their bolos). The *katána* is the most beautiful bolo, having a long, thin blade, and which is used only for fighting, for bride price, or as gifts to the spirits. This bolo commonly has a beautiful geometrically patterned handle carved from the black horn of the water buffalo. The finest *katána* are found among the Aburlin pagans who live in the Tarlac area of the Zambales Range, adjacent to the territory of the Pinatubo Negrito, and who though closely related in culture to the Pinatubo pygmies, are mostly non-Negrito in physical type. However, the blades for the Aburlin's *katána* are fashioned in the forges of the Pinatubo Negrito; specifically, in the Baklay area. The *yánoh* and the *dípaláta* (from *díla*, "tongue," denoting the shape of the blade) have the same uses as the *katána* with long, thin blades, but vary in form.

The *kundáng* (*sundáng* in many Philippine dialects) is a rather small bolo with a narrow, pointed blade. This is the type commonly carried by the men and used in countless daily activities, such as in making a bow, or cutting the feathers for fletching, but this bolo is never used for making clearings. The *adol*, the *talódo* or *tagóho*, are thick bladed, blunt headed, work bolos used by the men, and particularly by the women, in making the clearings, in planting, and in digging tubers. In addition, there is the curved *kumpáy*, with a saw-toothed edge, used in harvesting rice; small work bolos, the *pandúl* or *ongkáb*; still smaller household knives, the *kúyá'*, and many others such as the *binakóko*, *panabód*, *abókay*, and *kaláwit*, each distinctive in shape. Even in instances where blades may be obtained from lowland forges (e.g., the *pandúl*)—particularly from the Pampangan in the vicinity of Patling, Tarlac—the blades will be reworked to conform to traditional patterns. All of the scabbards as well as handles of the knives and bolos are made locally by the owners of the blades.

Woods for scabbards.—The bolo scabbards, *gúma*, are made very skillfully from two pieces of wood. One thick piece is chiseled out to fit exactly the blade of the bolo and the other

forms a thin, flat cover (see Plate 9). The work is so well done, and the two pieces put together so carefully, that it is sometimes difficult to detect that two separate pieces of wood are actually forming the scabbard. The pieces are glued together with pastes obtained from specific plants (these plants will be discussed below) and, in addition, may be strengthened with rattan bindings or with wooden pegs. The following woods are used specifically for making scabbards:

Anggagá'. Gomphandra cumingiana (Miers.) F.-Vill.
(tree) No cognates were found.

Bátung-áyta. Diospyros sp.¹²⁶
(tree) Local names: *balongéta* (Tag.); *balingáta* (Ibn.); *atá-atá* (P. Bis.) for *Diospyros* spp.

Banatóh. Mallotus philippensis (Lam.) Muell.-Arg.
(tree) Local name: *banato* (Tag., Ibn., Ig.)

Báyoy. Pterospermum obliquum Blco.
(tree) Local names: *bayóí* (Pamp.); *bároi* (Ilk.); and *bayég* (Tag.).

Boyngáh. Wendlandia luzoniensis DC.
(tree) No cognates were found.

Kalibutbút-ya-tagálbag. Voacanga globosa (Blco.) Merr.
(small tree) Local names: *alibútbut-nga-bai* (P. Bis.); the term *tagálbag*, as used by the Pinatubo pygmies, defines the fact that the birds do not eat the fruit of the plant.

Laníti or anaótung. Wrightia laniti (Blco.) Merr.
(tree) Local names: *anótung* (Tag.); *laniti* (Tag., P. Bis.)

Lulpó'. Arthropphyllum ahernianum Merr.
(small tree) Local name: *danipo* (Ig.)

Nató'. Palaquium sp.
(large tree) Local names: *nató'* (Tag.) for *Palaquium* spp.

Ngúho'-dagí. Ligustrum pubinerve Blm.
(large bush) The Negrito also call a plant of New World origin by this same name meaning the rat's snout."

Panghól. Aralia bipinnata Blco.
(tree) No cognates were found.

¹²⁶ *Diospyros* spp., are hard, dark wood trees and the color of the wood has undoubtedly provoked the common local plant names for this genera. The terms *áyta*, *éta*, *íta*, *agá*, *atá*, all cognates, are used by the lowland people throughout the Philippines to define the dark skinned, "Negroid" groups.

Panagulingin. *Cratogeomys celebicum* Blm.

Pupukkol. *Ardisia verrucosa* Presl.

Pupukkol-bagbag. *Ardisia proteifolia* Mez.

(small trees) No cognates were found for the plant names *pupukkol*, but it is probably a locally coined word. The word *bagbag* means "a large, heavily wooded forest," and in the Negritos' classification system differentiates these two *Ardisia* by the habitat of the latter which is in the forest.

Tambalaw. *Myristica philippensis* Lam.

A reddish, shellac-like material, which the Pinatubo pygmies call *pamaudit* (from *maudit* or *naudit*, "red"), is obtained from the scraped bark of this tree. This is merely rubbed on the surface of the scabbards to give a colored polish.

The bark of the *bandaw-lalaki*, *Neonauclea bartlingii* (DC.) Merr., is sometimes attached to the scabbards to form an unusual decoration which is called specifically, *goot*. The mature fruit of *bukinay*, *Antidesma pentandrium* (Blco.) Merr., yields a black dye which is also used for decorating the scabbards. According to Merrill, this latter plant is called *balanei-na-manot* in Pangasinan, *bugnai* in Ibanag and Ilokano, and *bunai* in a Negrito dialect the location of which he does not note.

Woods for bolo and knife handles:

Aum-gum. *Melanolepis multiglandulosa* (Reinw.) Reichb. f.

(small tree) Local names: *aum* and *afum* (Tag.); *afum*

(P. Bis.); *akim* (Ilk.).

Balliwut. *Ethretia polyantha* R. Br.¹⁵⁷

buboh. *Litsea* sp.

pullkin or *pullin*. *Hymenodictyon excelsum* (Roxb.)

Wall.

(tree) No cognates were found.

Tambalaw. *Myristica philippensis* Lam.

oah. *Harpullia arborea* (Blco.) Radlk.

(tree) Local names: *oas* and *poas* (Tag.); *wis* (Ita., Ilk.)

The bolo is now so characteristic and so functional a part of the Negritos' culture that it is difficult to imagine what their life would have been like without this omnipotent tool. It

¹⁵⁷ According to Reyes, this wood is commonly used in the Tagalog areas for the handles of bolos. Reyes, Luis J. Philippine Woods, Manila (1938) 426.

would appear from Careri's observation,¹⁵² that the Zambales Negrito have possessed metal knives and bolos for at least 253 years and probably longer. However, the use of metal is quite limited among the Pinatubo pygmies, being confined wholly to metal arrowpoints, tools used with the forge, bolo and knife blades, and to the homemade shotguns. Nevertheless, the efficiency obtained through using the bolo (only one type of a metal tool) has produced a tremendous change in the behavior of the pygmies. This change extends not only to economic activities, craftsmanship, and increased control over the environment, but has also had a marked influence upon their institutional structures and values. For example, the use of more efficient tools has provoked an individualism which is, at present, constantly conflicting with the basic communal organization of Negrito society. This will be discussed fully in another manuscript.

LEAVES USED FOR SANDPAPER

The polished surfaces found on the pygmies' bows and arrows, on the bolo scabbards, guitars, wooden eating plates, and on other objects, are obtained, in part, by employing the dried leaves of specific plants as a "sandpaper." This is a widespread practice in the Philippines among both the Christian and Non-Christian people and the plants used for sandpaper by the Pinatubo pygmies are also commonly used by the surrounding people.

The leaves of the following plants have minute, stiff, silica hairs, and when dry, make an excellent natural sandpaper:

Aladiad or *kalaháka*. *Tetracera scandens* (Linn.) Merr.
(vine) Local name: *alaríad* (Bot.-Sbl.); no cognates were found for *kalaháka*.

Gihigih. *Ficus blepharostoma* Warb.

Tiplí'. *Ficus odorata* (Blco.) Merr.
(small tree) Local name: *tiplí'* (Bot.-Sbl.). This plant name is also the generic term for "sandpaper."

PASTES OBTAINED FROM PLANTS

Pastes, called *kóla'* (*kóla*, Tag.), are obtained from a number of native plants. These plant pastes have many uses; for example, to glue the sections of wood forming the guitar, to secure the glass windows in the water goggles, to hold together the two pieces of wood forming the bolo scabbards, to mend pots, to secure the points of arrows in the shaft, and to cement the blades of knives in the handle, and so forth. The following

¹⁵² Read, W. A. Negritos of Zambales. Manila (1904) 29.

plants are also used by many other Philippine people for the same purpose and there is nothing unique in their usage by the pygmies.

Anónang. Cordia dichotoma Forst.

The white, gelatinous substance from the fruit of this small tree makes an effective light glue. This plant is also called *anónang* in Ibn., Ilk., Tag., Bik., and Bis.

Bangábah. Macaranga grandifolia (Blco.) Merr.

The red sap from the bole of this tree is used in gluing together the two sections of wood composing the bolo scabbards. No cognates were found for this plant name.

Bubók. Litsea sp.

The outer bark of this tree is scraped to obtain an oily paste. This paste is used specifically to mend small cracks and plug holes in pottery vessels.

The Negritos make no pottery, although it is rather extensively utilized by some groups for cooking, and for storing drinking water. Moreover, insofar as I can determine, pottery is not made by the Sambal. The pottery found in the Botolan market (the source of the Negritos' pottery), as well as in the markets of the Sambal towns to the north, is made mostly in the Ilokano communities of southern Zambales.

Kóla'-babái. Geodorum nutans (Presl.) Ames

Eulophia squalida Lindl.

The rhizomes of at least two ground orchids are commonly used by the Pinatubo pygmies for glue. The bulbous rhizomes are heated, cut into half, and then scraped until a sticky mass of paste is obtained. According to the Negritos, this is the very best glue, and is used extensively when making guitars and bolo scabbards. Manuel Celestino, of the National Museum, reports an identical preparation and usage among the people of Cebu. The Negritos in the Fort Stotsenberg area (Clark Field), on the eastern slopes of Mt. Pinatubo, use the large rhizomes of a ground orchid, *Acanthophippium mantinianum* L. Linden and Cogn., for paste in the same manner. They also call this plant *kóla'*.

The Pinatubo pygmies call a number of ground orchids, without bulbous rhizomes, and having no use, *kóla'-laláki*; *Calanthe furcata* Batem., *Habenaria* spp., and *Malaxis* spp. As we have seen, *kóla'* is the Sambal term for "paste" or "glue,"

and the Negritos distinguish the useful ground orchids with the term *babái*, "woman," and the non-useful, with the term *laláki*, "man." The differentiation of plants having physical similarities as "woman" and "man" (the male and female plant) is a widespread practice among Philippine ethnic groups.

Dulit. Canarium sp.

A slash is made in the trunk of this tree and the sap is collected for paste. This sap is mixed with beeswax, and then used to secure and waterproof the edges of the glass windows in the water goggles. The pure sap is also used to secure arrow-points in shafts, and bolo blades in handles. According to Merrill, *Canarium multipinnatum* is called *dulit* in Tagalog, and Brown notes that *Canarium asperatum* is *dulit* in Sambal.

A vine, *Ampelocissus pauciflora* Merr., is called *dulit-ya-kínio* meaning the "dulit vine," but this latter plant has no use.

Bukó-bukón-kóla'. Ophiorrhiza mungos Linn.

The stem of this plant is scraped and the mash forms a good paste used in making the bolo scabbards and guitars.

PLANTS USED IN MAKING BASKETS

At present, the Pinatubo pygmies make and conceptually distinguish twenty-eight different types of baskets; however, most of these are of recent lowland origin borrowed by the pygmies as an associated part of cultural complexes which are foreign to them. For example, when Reed first studied the Zambales Negritos, there was practically no rice planting or utilization of rice, and consequently winnowing trays, sifters, storage baskets, etc., usually associated with the rice-complex, were rare. Today, among some of the more acculturated Negrito groups, these are commonly utilized. In addition, basket weaving has been taught at the Villar Settlement Farm School since 1907,¹⁰⁰ and weaves originally utilized by the surrounding lowland people have been purposely introduced to the Pinatubo Negritos. The sizable number of baskets which are recognized by the Pinatubo pygmies are also, in part, a product of the manner in which they distinguish types, for the twenty-eight varieties are not all basically different in form and use. Two baskets may be identical in method of construction, form, and function, but if they vary markedly in

¹⁰⁰ Cushman, W. J. The Villar Settlement Farm School. Philippine Craftsman (1914) 553-559.

size, each will have a distinct name. Other baskets which are basically similar, but which are made of different materials, are each given different names.

All baskets are made of either bamboo or rattan, neatly split and trimmed to the desired width for weaving. In contrast, however, to other Philippine people who use the same mediums, the baskets of the Pinatubo pygmies show very poor workmanship and within the group have little value. They are never used for bride price as are bows and arrows, bolos, and other items. I have seen good baskets, which were still useful, thrown aside and abandoned. Whenever possible, the Negrito will obtain baskets from the lowland Sambal; or from the Aburlin pagans to the north. The latter group makes very fine and decorative baskets (see Plate 14, fig. 2) which are prized by all of the Pinatubo pygmies.

As can be seen by examining Plate 14, the cruder types of Negrito baskets are made with a simple one-over, one-under checker weave. The *talín-talín* (see Plate 14, fig. 3) and other more attractive baskets are made with a diagonal two-under, two-over plait. These are the two most common weaves throughout the Philippines.

The basket most frequently seen and utilized by the Pinatubo pygmies, and which is not found among the surrounding lowlanders, is the *lubón*¹⁰⁰ (see Plate 14, figs. 1, 8), and variations of this type. The typical *lubón* is round and deep, with square corners on the bottom, and is carried by means of a head strap across the forehead. This characteristic basket is invariably made of *púhiw*, *Schizostachyum lumanpao* (Blco.) Merr., with a simple, checker weave. The head straps, *awáwi*, are made of either the dried sheath of the banana stalk, or the dried bark of the *dangóy*, *Grewia multiflora* Juss. This pack basket is used principally by the women when traveling to gather food, when moving the household, or when packing the "kaingin" harvests back to the dwelling. If made of the bamboo *baytó*, also *Schizostachyum* sp., and very large, this type of basket is called *bagyá* (Sp.). If made of a rattan, usually a species of *Calamus*, with a twilled weave, the basket is called *dandán* (see Plate 14, fig. 5). Very small pack-baskets, sometimes used by the women, but mostly by young girls as they mimic the work activities of their mothers, are found which are identical in form and con-

¹⁰⁰ This same basket is called *kadykay* by the Negritos in the Dinabuhán area, Bataan.

struction with the *lubón*. These latter are called diminutively, *lubón-lubón* or *oybón-lubón* (see Plate 14, fig. 8). The *taponán* (see Plate 14, fig. 6) is like the *lubón*, but it is not as deep, and the checkered weave is more widely spaced. As indicated by the name of the basket, it is used by the women in preparing the clearings to cart away, "throw away," weeds, grasses, and wood.

Numerous *sakopit* (see Plate 14, fig. 10), a pack basket carried by means of shoulder straps, are now found among the Pinatubo pygmies. Normally, these are utilized by the men, as the women traditionally prefer head straps to support loads. The bark of *Hibiscus tiliaceus*, called *maguguhi*, is used in making the shoulder straps for this pack basket. Though some *sakopit* are made by the Negrito, they are usually obtained in trade from the Sambal and the Aburlin. I have seen this type of basket among many Christian and Non-Christian groups in central and northern Luzon.¹⁶¹

A variety of baskets are employed in daily household activities. Most commonly seen is the *talín-talín* (see Plate 14, fig. 3) which is a relatively small, bowl-shaped, all purpose basket. These are made of split bamboo with a two-under, two-over diagonal weave. A larger variety of this same basket, the *talín* (also called *binakítang*) is commonly encountered. Personal articles, such as clothing, beads, combs, etc., are stored in the corners of the dwellings in large, square, box-like baskets provided with a slip-over cover, the *kampipi*. All of the surrounding lowland people make and utilize this same type of basket and it is very common among the mountain tribes of northern Luzon.¹⁶² The *kampipi* type of basket is normally made of rattan, but if made of bamboo, it is called *bákol* (the smaller varieties, *bákol-bákol*). Even the flint, steel, and tinder for fire-making are kept in a small, oblong basket with a slip over cover, the *balín-pánting*, that is, the "house of the strike-a-light" (see Plate 14, fig. 4). This basket is always made of split rattan with a twilled weave. Elongated baskets, the *binukwán* and the *paloklók*, are used for storing seeds and tobacco respectively. In addition to using banana leaves, wooden plates, as well as ordinary china and metal plates when available for eating purposes, the Pinatubo Negritos make a flat,

¹⁶¹ Compare the carrying basket of the Benguet Igorot (Ibaloi) illustrated in Parker, Luther. "Primitive Philippine Basketry," Philippine Craftsman (1913) 75.

¹⁶² Ibid., p. 74.

round, tray-like basket to use as a plate. This utensil is specifically called *gügubán*.

Among the Negrito groups who grow some upland rice, and among families who obtain unhusked rice as payment for working in the lowlands during harvest times, winnowing baskets are seen. The winnowing trays are round, identical to those encountered among the Tagalog and Sambal, and are made of *baytó*, *Schizostachyum* sp. If large, these trays are called *biláwo*, if small, *bibiláwo*. Rice sifters, *bihtáy*, made of bamboo with a wide twilled weave are also utilized.

When the Negritos are fishing with a pole and line, gathering shrimps and small fish from under rocks by hand, damming rivers, or even when utilizing the flood-trap, two types of baskets are used to hold the catch. The *kobáb* is an hour-glass type of fat-bodied basket with a flap cover. This "creel" is seldom made by the Negrito, though very commonly used, and is obtained from the lowland Sambal. The *koyempól* (see Plate 14, fig. 7) is utilized in the same way and is made by all of the Negrito groups. The latter is apparently one of the older forms of baskets.

Some of the Pinatubo pygmies utilize woven sleeping mats, the *amák*, which are obtained from the Sambal. Although mat weaving has been taught in the Negrito School at Villar, I did not see any of the pygmies making these.¹³³

As noted above, all baskets are made of either bamboo or rattan. The small bamboos which are most commonly utilized are; *binúhak*, *baytó*, *ganfhp*, *púhiw*, and *yábil*, all *Schizostachyum* spp. A sizable number of the rattans can be used in making baskets, but the following species of *Calamus* are most satisfactory, as well as most common in the Pinatubo area: *babúyan*, *libnóy*, and *lúwin-naudit*. I did not see a single basket made by the Pinatubo pygmies having imbricated design patterns, such as are found among other Negrito groups in the Zambales Range. Nevertheless, informants stated that the dried stems of two plants are used to form attractive, imbricated patterns on the baskets; the split, dried stem of the fern-vine

¹³³ Three useful plants were collected on the lower slopes of Mt. Pinatubo and in the lowlands which, though not used by the pygmies, are important to the Sambal. Both groups employ the same names for the plants. The stems of the *kalótoy-dalág*, *Cyperus distans* Linn. and *Cyperus difusus* Vahl., and the *maglalebtáng*, *Tinomisicium philippinense* Miex., are woven into hats. The *lilal*, *Corypha elata* Roxb., is used for weaving sleeping mats, as well as hats.

nito'-mantig, *Lygodium circinnatum* (Burm.) Sw., which is very black, and the dried stem of an epiphytic orchid *lálaw*, *Dendrobium luzonensis* Lindl. The stem of the latter, when dry, is a brilliant yellow, and is extensively employed by other Philippine pagan groups with whom I have worked.¹⁶⁴ The Bataan Negritos, being betel chewers, make small, oblong baskets which are slung from the shoulder to carry the betel nut, leaf, and chewing tobacco. These baskets, called *patakilya*, have very attractive designs made with an imbricate weave of both *lito'*, *Lygodium circinnatum*, and *lálaw*, *Dendrobium* sp.

The basket forms of the Pinatubo Negrito do not evidence any unusual characteristics and are common Philippine types.¹⁶⁵ In addition, the names of the baskets, except *lubón*, can be found with minor phonetic variations among many Philippine non-Negrito people. The plants used by the Pinatubo pygmies also have widespread usage. With the exception of the baskets specifically noted above, the baskets of the Pinatubo Negrito are either copies of recently introduced types, or baskets obtained by trade from the more skillful weavers found among the surrounding people.

PLANTS AND HOUSEHOLD UTENSILS

With the exception of a few items, such as the wooden mortars and pestles which are not characteristic of the more primitive Negrito groups, all of the household utensils of a typical pygmy family can be placed in one or two large pack baskets. It is no great problem for the Negrito women to shift their households.

As we have discussed, three large bamboos of prehistoric introduction, and the endemic *Schizostachyum lumampao*, are extensively utilized in making household utensils. The use of these bamboos has had great molding effect upon the culture of the Pinatubo pygmies. In addition to the utensils made of bamboo which have already been discussed, a few other items found in every household should be described. For storage

¹⁶⁴ Fox, Robert B. Notes on the orchids and people of northeast Polillo Island, Quezon Province. *Philippine Orchid Review* 3 (1950) 18.

¹⁶⁵ Parker, Luther. Some common baskets of the Philippines. *Philippine Craftsman* (1914) 1-25, with numerous plates. Parker notes, p. 7, that *Dendrobium crumenatum*, called *irao* by the Bisayans, is used to decorate baskets. The local names *lálaw*, and *irao*, are obviously derived from the terms for the color "yellow"; the color of the stem of species of *Dendrobium*.

purposes, there is the *hayapil*, a troughlike wall rack made of bamboo slats, and the *hapátan*, a flat rack suspended directly above the hearth which is also made of bamboo slats or small branches. This latter rack holds kindling, tobacco, and other items, which are kept dry during the months of heavy rains by the heat and smoke from the hearth. The primary storage area of the dwellings is not, however, these two racks, but the inner sides of the roof. Innumerable objects are stuck here at random to be safe from the prying hands of the children; bows and arrows, feathers for fletching, leaves and stems of plants for medicinal purposes, the *toyók* which is a sharpened piece of bamboo decorated with a tuft of shavings used to test whether or not the camotes and other tubers are properly cooked, combs, many partly smoked cigars, and other personal items.

Bamboo tubes of various sizes are also important for storage purposes, and each type, as determined by its use, has a different name. The *kúpá* is a relatively short, bamboo tube provided with a cover made from the sheath of the banana stalk and is used to store the fletching feathers. Longer bamboo tubes hold prize arrows, as well as the seeds for the next planting.¹⁶⁶ As we have noted, the bamboo tubes used in storing seeds are provided with plugs made of tobacco leaves to keep out the borers. Salt, when available, is kept in a special bamboo container, the *kanyúti*.

In the past before pottery and metal vessels were obtained from the lowlands, cooking tubes made of bamboo were extensively employed. The usual type of cooking tube is/was made from a single internode of green bamboo with the node partition at one end removed. These are called *bíák*.¹⁶⁷ In addition, the Pinatubo pygmies have made three other types of cooking tubes from bamboo. These are rarely seen today. The *patoláng* is also made from a single internode, but the node partitions at the ends are left intact and a round hole is made in the center of the internode. Unlike the *bíák* which is used in a standing position, the *patoláng* is placed over the fire

¹⁶⁶ Containers for storing grains of rice to be used in the next planting are sometimes made from the trunks of the palms, *águñ*, *Caryota cuneifolia* Lodd., and *idák*, *Arenga pinnata* (Wurmb.) Merr., by removing the pith. These containers are called specifically *báhay* which means "house" in Tagalog and has obvious semantic relationship. The bamboo tubes for storing rice also have a specific name, *buklót*.

¹⁶⁷ In Tagalog, and in other dialects, an "internode of bamboo or cane" is called *bíák*.

horizontally. The *tinanínin* is composed of two internodes with the three node partitions left intact. Holes are made in the tube near the upper end of each internode. By using this tube, two foods can be cooked at the same time. Finally, there is the *binutákal* which is a telescopic double-boiler. Food is placed in a smaller tube which is then inserted into a larger one filled with water. All used cooking tubes are called specifically, *bintákan*.

All of the cooking tubes, as well as the storage tubes described above, are now made of three prehistorically introduced bamboos: *Bambusa vulgaris* Schrad., *Bambusa spinosa* Blm., and *Gigantochloa levis* (Blco.) Merr. Consequently, these bamboos could not have been utilized by the earliest Negrito inhabitants of the Zambales Range. In personal conversations, Professor M. D. Sulit has pointed out that the Bataan Negritos utilize for cooking tubes the stem of the bamboo, *Schizostachyum lumampao* (Blco.) Merr. I know of no other native bamboo in the Zambales Range which is sufficiently large for this same purpose, and as *Schizostachyum lumampao* is very common throughout the Zambales mountains, it would suggest that this was an earlier medium employed by the pygmies.

Wooden plates.—Well made wooden eating plates are encountered among the deeper Pinatubo Negrito groups. I have not seen these plates among any other Negrito groups in the Zambales Range and it appears that they are of lowland Sambal origin, for they have been extensively utilized in the past by the Sambal in the Municipality of Botolan. These plates are round, about 30 cm in diameter, approximately 6 cm in height, and 4 cm in depth at the center. There is no decoration. These *apág*, as the plates are called, are carved with a bolo out of a solid block of wood, usually, of *bukáwIn-mantág*, *Vitex parviflora* Juss., and sometimes of *kayáhan*, *Ficus variegata* Blm.

Digging and planting sticks.—The Pinatubo pygmies employ three types of dibbles and each has a specific name. The digging and planting sticks are normally made out of the outer hard woods of palms; in addition, the wood of the tree, *bibih-wák*, *Aphanamixis tripetala* (Blco.) Merr., is a popular medium. The *búlak* is approximately one and a half meters long, the shaft rounded, one end pointed, and is used for making holes in the ground when planting camote tops, taro, stems of

the cassava, and so forth. The *huan*¹⁴⁸ is similar in appearance though much shorter, and is used for digging camotes and other tubers, or when working in a sitting position. The *ihúw* is differentiated by its use for planting upland rice and corn. Specific types of work bolos are also used for planting crops and in digging tubers.

The dibbles employed by the Pinatubo Negritos should not be considered as being evolved, or borrowed, since the introduction of cultivated crops, for they are still used today in digging wild tubers. I believe that digging sticks, similar to those employed at present, were in use long before the pygmies became shifting cultivators.

Tinder.—The tinder, *kabú-kabú*, for all fire-making equipment (the "firesaw," *payúcah*, the "fire-piston," *solpák*, and the "strike-a-light," *panting*) is obtained from a specific palm and obtained only by the men. According to informants, the married men must obtain the tinder from the palm *takipan*, and a widower or a single man, from the *ágúh*. As we have noted, these "two" palms have been identified as a single plant, *Caryota cumingii* Lodd., but that minor differences in the shape of the leaves do exist which have undoubtedly caused this erroneous differentiation by the Negritos.

Between the boot of the branch, and the trunk of this palm, there is a soft, downy-like fiber. When thoroughly dried in the sun, this fiber is highly inflammable, and makes an excellent tinder. It is obtained by merely scraping the trunk of the palm with a bolo. *Caryota cumingii* Lodd., is the common source of tinder throughout the Philippines.

When this fiber cannot be obtained, bamboo shavings called *balikahkák* are used as a substitute tinder. Usually, the Negrito women will keep the hearth alive, or when traveling will carry with her a fire-brand, the *aypák* (cf. Plate 5, fig. 4), thus eliminating frequent fire-making.

Ladles.—A ladle, the *handók*, with a scoop made of the halved coconut shell, and with a wooden handle, is also a common household item among the more acculturated Pinatubo Negrito groups.

¹⁴⁸ In Botolan-Sambal, the term *huan* designates a long pole which is used for making holes in the mud and sand while placing the piles for the fish corrals. The lowland Sambal call all dibbles *kakáti*.

This ladle is identical to that utilized by the Sambal and has unquestionably been copied from the lowland type. The handles of the ladles, called specifically *húlan*, are always carved from one of the following three woods:

Bandhi. *Murraya paniculata* (Linn.) Jack.

Bubók. *Litsea* sp.

Laniti'. *Wrightia laniti* (Blco.) Merr.

Mortars and pestles.—Specific woods are also used by the Pinatubo Negritos in making the plain, single-holed mortars, the *lúhong*, which are used principally in separating the chaff from grain of the rice and for pounding corn to make a powder for a corn bread. The following woods are used for the mortars:

Balinháy. *Buchanania arborescens* Blm.

Banabáh. *Lagerstroemia speciosa* (Linn.) Pers.

Bangkál. *Nauclea orientalis* Linn.

BuláwIn-mantág. *Vitex parviflora* Juss.

Pawhápi. *Anisoptera thurifera* (Blco.) Blm.

The double-ended pestles, the *láo*, are also fashioned from the hard woods of a specific group of trees:

Báhung-áyta. *Diospyros* sp.

Bibihwák. *Aphanamixis tripetala* (Blco.) Merr.

Dalín. *Flacourtia indica* (Burm. f.) Merr.

Dalína. *Phacanthus* sp.

The lowland Sambal in the Municipality of Botolan, Zambales use these same plants, which are mostly of low and medium altitudes, for their mortars and pestles. Moreover, the mortars and pestles made and used by the pygmies are identical in form to those employed by the Sambal, indicating that the styles were borrowed from the latter group. Even today, mortars and pestles are not found among the deeper pygmy groups for, as we have noted, many of them do not plant or prepare rice.

Leaves used as plates.—Banana leaves are the most frequently used medium for plates, the *pangánan*; however, a number of other plants (which are all of widespread distribution in the Pinatubo area) are also used for this purpose, when they are more readily available:

Bangábah. *Macaranga grandifolia* (Blco.) Merr.

Laláta'. *Maoutia setosa* Wedd.

Taguktók. *Curculigo orchioidea* Gaertn.

Agik-ik. *Phacelophrynium interruptum* (Warb.) K. Schum.

Local names: *hagikhik* (S-L-Bia.); *hagitit* (Tag.).

PLANTS USED AS SOAP SUBSTITUTES

The Pinatubo pygmies show remarkably little concern with cleanliness and care of the body. I have never seen an older man or woman purposely bathe and mothers rarely attempt to clean their babies and small children. Boys and young men are by far the cleanest of the lot, due to their continual diving and fishing in the rivers, as well as to the influence of the Villar Settlement Farm School.

The lack of cleanliness is in part due, as we have noted, to the prevalent belief among the pygmies that specific sicknesses are caused by frequent bathing and that dirt protects the body. Furthermore, the groups place no value on cleanliness *per se*. This attitude is also reflected in their living structures which are rarely swept or cleaned and their clothes which are almost never washed. Consequently, skin diseases and infections are rampant and the infant mortality is unbelievably high.

Nevertheless, the pygmies know which plants yield soap-like substances. This is probably due to the fact that they have gathered and traded these plants into the lowlands, where they have been extensively utilized. My informants state that on rare occasions, such as a trip to a lowland town where social pressure demands a degree of cleanliness, the Negritos do bathe and employ Chinese soap, or one or more of the following soap substitutes:

Anahigi. *Albizzia saponaria* (Lour.) Bln.

A shampoo for the hair is obtained from the bark of this medium sized tree. The saponaceous bark is scraped, the shavings soaked in a bowl of water, and then the shavings are squeezed to obtain a soap-like fluid. According to Merrill, this tree is called *salogigi* in Samar-Leyte Bisaya, and *sakigigi* in Tagalog.

Dupitak. *Glochidion luzonense* Elm.

The leaves of this plant are pounded and then merely rubbed on clothing. No related plant names were found for this small, endemic tree.

Gógo'. Entada phaseoloides (Linn.) Merr.

Sections of the whole stem of this large vine are pounded, soaked in water, and then squeezed to get a juice which is used as a shampoo. This vine, and *Albizia saponaria*, are commonly used throughout the Philippines as soap substitutes. The plant name *gógo'* is very widespread, appearing in Tagalog, Bikol, Tagbanuwa, Panay Bisaya, and in other Philippine dialects.

Langgim'. Securidaca corymbosa Turcz.

The bark of this tree is pounded and used for washing the body or clothes. Reyes notes that this is the "... useful *binaki* bark employed by Filipino women in the Visayas for washing the hair as a substitute for soap."¹⁶⁹ No cogantes were found.

Talyó'. Pittosporum pentandrum (Blco.) Merr.

The leaves and bark of this small, endemic tree are pounded to obtain a soap-like, volatile oil. This plant is also called *talyó'* by the Christian Sambal in the Municipality of Botolan, but no other related terms were found.

PLANTS AND PERSONAL ORNAMENTATION

In comparison with other Philippine Non-Christian groups, the Pinatubo pygmies add very little in the way of ornamentation and body decoration to their person. The men utilize far more forms of beautification than do the women and this may, in part, be due to the practice of polygyny and the general attitude on the part of the men that the principal role of the women is work. Among the men, chipped teeth, scarification, bamboo combs,¹⁷⁰ arm and leg bands, as well as the neck band, the *bagúdi*, are still common. The ornamentation of the women is confined largely to wearing necklaces of glass trade beads or of the hard, whitish seeds of the prehistorically introduced *bantákan*, *Coix lacryma-jobi*, brass finger rings or rings made from copper pennies, as well as flowers, grass, and small ferns worn in holes in the ear lobes. Chipped teeth and scarification are sometimes encountered among the Pinatubo Negrito women but are more common among the women of surrounding pygmy groups.

¹⁶⁹ Reyes, Luis J. Philippine Woods. Manila (1938) 190.

¹⁷⁰ Among the Batsan Negritos in the Dinalupihan area, bamboo combs are made and worn only by women (see Plate 16, figs. 1, 2).

The most attractive ornament worn by the Negrito men is a neck band, the *bagúdi* (see Plate 16, fig. 6), which wraps loosely around the neck two or three times. The basic element of this band is a neatly trimmed length of light colored rattan. Then, two or three strips of the bright green grass *hayápukh*, *Eleusine indica* (Linn.) Gaertn., are laid longitudinally on the strip of rattan. Finally, the trimmed black bark of the vine *kuliyát*, *Gnetum indicum* (Lour.) Merr., or the fern-vine *nito'-Mantág*, *Lygodium circinnatum* (Burm.) Sw., is woven at right angles over and under each strip of the green grass and around the rattan. This forms a very attractive green and black, checkered design.

Today, this neck band is usually worn as an ornament, particularly, by young dandies, but sometimes by the older men when participating in the *talbáng*. This ceremony is held when it is believed that sickness is being caused by the spirits of enemies that have been killed by the participants, or even by the ancestors of the participants, and is an attempt to placate these spirits. Older informants report that in former times the men always wore the *bagúdi* when they had killed a person, and the fact that the band is still worn during the *talbáng* with a somewhat similar function would substantiate these reports.

Chipped teeth, *táyad*, are considered a mark of beauty and maturity and, more than any other single factor, culturally distinguishes an individual living in the Pinatubo area as a Negrito. I have known a number of men who had no true Negrito physical characteristics, but who possessed fine sets of chipped teeth and who in everyway were Negrito in thought and action. Either the upper front six teeth and/or the lower front six teeth are chipped to a sharp point with a knife or bolo (cf. Plate 16, fig. 5). A piece of wood may be inserted in the oral cavity to protect the mouth from cuts. Usually the chipping is done by the men, but the women may perform the operation, and two practices are observed during this activity. The subject must not show any pain or remark about it. If he does, he is required to pay a small fine to the chipper. If a fragment of a tooth should fly and hit a bystander, the person whose teeth are being chipped is subject to pay a fine to the person struck. There is no specific ceremony or age at which the teeth are chipped. Young boys ten or twelve years old may already have chipped teeth, that is, following the appearance of the permanent teeth. Some do not have their teeth chipped until they are in

the late teens. Many young men today, influenced by the Villar Settlement Farm School, are not following this practice.

Two types of scarification are commonly practiced by the Negrito men. Small cuts are made in the skin with the sharp edge of a sliver of bamboo and the leaves of the tree *Ipah*, *Laportea meyeniana* (Walp.) Warb., are rubbed on the fine cuts to produce a marked scar. These cuts are made so as to form a diagonal pattern on the chest. This type of scarification is called *hibít*. Among the Negritos in the Dinalupihan area, Bataan, a similar form of scarification is found on the back, breasts, and upper arms of the women. It is called *hábút* and is also produced by simple incisions with a sharp piece of bamboo. Mr. Hospicio Doble of Botolan, Zambales, reports that scarification was found among the old Sambal, but with a different function. Bezoar stones obtained from deer, the *batón-wiika*, were sealed in cuts made in the skin to give the hunters *galing*, that is, "luck and prowess." Though bezoar stones are also charms among the Pinatubo pygmies, as well as among many other Philippine peoples, I did not encounter this particular practice among the Pinatubo Negritos.

Tákták is the most widespread form of scarification practiced by the men, and, in a few instances, by the women. A small piece of tinder is placed against the skin, ignited, and the flesh singed. The burn is aggravated and then allowed to fester until the proper keloid is assured. These scars are usually round, about the size of an American ten cent piece and are confined to the upper arms. The designs are, in general, crude and some motifs are the result of recent culture contacts. A boy living at Pauúwin had a perfect Pfc. chevron burned on his upper right arm; others had crosses. In addition to the function of these scars as beauty marks, the Pinatubo Negritos believe that sickness, particularly fevers, depart from the body at the point of the scar.¹⁷¹ The Negritos in the Fort Stotsenberg area, Pampanga, now argue that these scars are an effective cure for malaria!

The stiff, boar's hair leg bands described and collected by W. A. Reed¹⁷² have disappeared entirely and only the oldest men

¹⁷¹ Reed, W. A., *Negritos of Zambales* (1904). Plate LVI is an excellent illustration of *ták-ták*.

¹⁷² *Ibid.*, Plate XXXVII. The smaller boar's hair bands are worn on the wrists and the larger below the knees.

and women remember their use. My informants at Yamót stated that these bands were worn around the neck, the wrists, on the legs just below the knees, and were called respectively *buhilak*, *pantikáy*, and *tinikdím*. They agreed that the general term for all of the bands was *kantih*. The arm bands were worn by the men or women, but the neck and leg bands only by the men. According to my informants, these bands had a number of functions; (1) for ornamentation, (2) worn on the wrist after participating in a successful fight in which an enemy was killed, (3) worn below the knees to indicate that the wearer was brave, and (4) worn below the knees while traveling as a magical protection against poisonous snakes, and to increase the strength in the legs. Reed gives the latter explanation for their use, and notes that they were called "a-ya-bun."¹⁷³ I could not find this term among the Pinatubo Negritos, but the Bataan pygmies also use the boar's hair leg bands and call them *ayabóng*.

A variety of hair styles are encountered among the Pinatubo pygmies. Racially their hair is short and woolly, but where mixture with lowlanders has occurred it tends to become bushy. In general, the men wear their hair very short by constant trimming with a sharp bolo and some individuals clip a straight hair line on the forehead above the natural hair line. The latter is very common among the younger men, and is known by one of three terms; *lampáh*, *kantóh*, and/or *kiling*. Informants report that a bowl-like haircut, called *dipadíp* (*hapneón* among the Botolan Sambal), was common in the past. In addition, the Negritos and particularly the lowland Sambal trimmed their hair to the skull on the back half of the head, that is, the hair behind an imaginary line drawn between the ears.¹⁷⁴ This latter style was called *tupih*.

A variety of hair styles are also encountered among the women. Some individuals trim the hair very short, giving them a mannish appearance, while others, wear their hair in a huge, uncombed mass. The women often trim or clip the front hair close to the scalp, making an artificial hair line, the *lampáh* (cf. Plate 16, fig. 3).¹⁷⁵ According to informants, women in the past also wore the hair style described above as *tupih*.

¹⁷³ *Ibid.*, p. 38.

¹⁷⁴ *Ibid.*, Plate XVII. However, Reed's explanation that the hair was clipped in this manner only to eradicate vermin is not correct.

¹⁷⁵ Cf., Miller, E. Y. The Bataks of Palawan. Manila (1905) plates 86 and 87.

Young boys and girls often wear a clipped "tonsure" on the back of their heads called *oldin* (from ordain "?"). The Pinatubo pygmies state that this practice originated among the lowland Sambal in the town of Cabangan (see Map) and tell the following story:

One day a priest at Cabangan heard the birds and the snakes talking and learned that the children with *oldin* would be the friends of the birds, but the children without, would be bitten by the snakes. Now, to be safe, the children wear the tonsure.

Despite this modern explanation by the Pinatubo pygmies, I suspect that this custom is pre-Spanish, for similar practices are found among other Philippine pagan people.

Either a man or a woman may cut the hair of another man or woman. Following the hair cut, the *udág*, the hair on the ground must be carefully gathered by the owner and burned. If another person is forced to gather the hair, for it must not scatter, a fine must be paid to that person by the owner of the hair. This action is necessary due to the belief that if cut hair should be mixed, the person having the less powerful personal spirit(s) would die.

Many of the Negrito men have marked face and body hair. Face hair is never removed, but rather, admired by the pygmies. A beard, *gayád*, is considered a mark of distinction.^{17a}

Three plants were collected which are used solely by the pygmies as "hair restorers":

Páhaw or *kabáhaw*. *Zingiber* sp.

The pygmies squeeze the juice from the head of the flower stalk of this plant and then apply it to the head. This herb is called *tamó-tamó* by the Sambal of Botolan. No cognates were found.

The Negritos also call another herb by the same generic term, *páhaw-na-hulyáw*, *Globba marantina* Linn., the "yellow *páhaw*." This latter plant has no use.

Hogpáw. *Cassytha filiformis* Linn.

The stem of this leafless parasite is pounded, the juice obtained mixed with water, and the concoction poured over the head. No cognates were found.

Patúbo-habót. *Equisetum* sp.

^{17a} Face hair is called *gámi*, a "deep" Sambal term, and a person with a hairy body, *pugóh*.

This strange, almost leafless plant, is pounded and then mixed with water which is poured over the head. This local, descriptive plant name describes the use of this plant, "hair (*habót*) grower (*patúbo*)."

Some of the acculturated Negritos, but more commonly the Sambal, mix the perfumed flower of *ayangilan* (*ilang-ilang*, Bot.-Sbl.) which is a common tree, *Canarium odoratum* (Lam.) Baill., with *pumid*, "pomade", and use it for a hair dressing.

MISCELLANEOUS USEFUL PLANTS

The large number of plants used by the Pinatubo pygmies made it impossible to establish specific categories for each. Consequently, the useful plants which have not as yet been discussed are treated below.

Aladóng. Trema orientalis (Linn.) Blm.

The bark of this tree, which is common in the secondary forests, is used for coffins. Bark coffins are called specifically *bakbák* (see Plate 18, figs. 1 and 2.)

Bangkál. Nauclea orientalis Linn.

The bole of this tree is sometimes hollowed out for small coffins which are used only for small babies and children.

Bagóyboy. Thysanolaena maxima (Roxb.) O. Ktze.

The flower panicles of this tall grass are sometimes bound together to form brooms, the *kakág* or *kálík*. However, the pygmies rarely sweep their dwellings or yards and brooms are not frequently seen. No cognates were found for this plant name.

Biblíh. Guioa koelreuteria (Blco.) Merr.

The fruit of this tree is pounded to obtain an oil for illumination. The Sambal in the Municipality of Botolan call this plant *malahábi*.

Binúnga'. Macaranga tanarius (Linn.) Muell-Arg.

The leaves of this tree are cut into pieces, dried in the sunshine, and then mixed with the native wines, *bási*, in order to strengthen them. The deeper Negritos do not normally drink intoxicants, and this practice is confined largely to the Sambal and to a few acculturated Negrito groups. The same practice is found among the Tagalog, the Ilokano, and other

ethnic groups. According to Merrill, this tree is called *binánga* in Tagalog, Pampangan, and Panay Bisaya, and the word-base of this plant name is probably *bánga'*, a widespread term for "fruit."

Kawáyan-mantúg. Bambusa spinosa Blume

The *talibúng*, a meter-long drum used only in the ceremonies for the spirits, is made of this large, introduced bamboo. All of the nodes are knocked out and one end is covered with a piece of tanned deer skin. This drum, as well as the flat brass gong, the *paláy*, are purely ceremonial in use and are never played, even tapped, at any other time.

Góga'. Entada phaseoloides (Linn.) Merr.

The large seeds of this vine—the seeds are specifically called *uwá'*—are used in a bowling game.

Ingwál. Flagellaria indica Linn.

The seeds of this vine are roasted, soaked in water, and domesticated water buffalos are enticed to drink the brew. This decoction is believed to be an effective medicine for any type of animal sickness. In addition, the whole stem of this plant may be tied around the water buffalo's neck, when it is sick.

These techniques are also employed by the lowland Sambal, and were undoubtedly borrowed from them. As noted, the deeper Negritos do not possess the water buffalo and even the acculturated Negritos have great difficulty in procuring the animal for farming purposes.

Labyák. Elatostema viridescens Elm.

The whole of this plant is used as a pig food. Tamed wild pigs, as discussed above, are favorite pets, and domesticated pigs are occasionally kept to become gifts to the spirits in the *iwí'*, or the "fiesta of the spirits."

Lanít'. Wrightia laniti (Blco.) Merr.

Guitars, the *gitáda* (Sp.), are usually made of this wood (see Plate 17, figs. 1 and 2). The guitar is the favorite musical instrument of the Negritos in the Zambales Range and they have a great repertoire of "pandango" pieces. The form of their present guitar has been derived from Spanish instruments; however, it is possible that guitar-like instruments, other than the bamboo zither, were used by the pygmies in pre-Spanish times.

Luk'-lukó'. Monochoria vaginalis (Burm. f.) Presl.

This plant, which is like a water lily in appearance and habit, can also be used as pig food. Similarities in the habit and appearance of this plant with the taro, a class of which the Negritos call *lukó*, has undoubtedly stimulated this plant name.

Magmamani'. Alysicarpus vaginalis (Linn.) DC.

This is a common food for domesticated animals. This plant is called *mani-mani* in Botolan, Zambales, and Merrill notes that *Alysicarpus nummularifolius* (Linn.) DC., is called *mani-manian* in Tagalog, and *mani-mani* in Panay Bisaya. All of these local names suggest likeness to the "peanut" which is called *mani'* throughout the Philippines.

Púgoh-lukó. Lencosyke sp.

Bunches of the leaves of this plant are placed on the back to act as a protection for the skin when the pygmies are carrying the itchy parts of the taro. This plant name is derived from its use.

Tuláloy. Buddleia asiatica Lour.

When a baby has been crying continuously, and will not sleep, it is made to smell the smoke of this burning plant. The local plant name is derived from its use, as *túloy* means "sleep," plus the reduplication of the first syllable of the word-base.

Yúpal-mantíg. Drynaria quercifolia (L.) J. Smith

Among the acculturated Negritos, two uses were encountered for this fern. The green leaves are placed on the bottom of the rice pot so that the under portion of the rice will not be burned and the dried leaves from the base of the plant are attached to a long pole to form clackers in order to drive the rice birds away from the field. This clacker is called *ayáy*.

Pinoy-yúpal, Drynaria rigidula (Sw.) Bedd., meaning the "small *yúpal*," has the same uses. No cognates were found for the plant name, *yúpal*.

PLANTS HAVING NAMES, BUT NO USES

Eighteen plants, which are conceptually distinguished by the Pinatubo pygmies with names, but which have no uses, were collected. The number of such plants is, as would be expected, very small, for it is through use that specific plants become to have meaning to a people. Sixteen of these plants

have names which were unquestionably coined by the pygmies, and only two specific plant names which were apparently borrowed. I am surprised that there are even two, for uses will invariably diffuse with plants which have specific names.

Methods utilized by the Pinatubo pygmies in the formation of autochthonous plant names are reiterated in the following discussions of the non-useful plants.

Bawhit or *bahwit*. *Flüggea virosa* (Roxb.) Baill.

Phyllanthus macgregorii C. B. Rob.

The Christian Sambal call these two plants *bawhit*, but the Negritos usually employ the metathesized form, *bahwit*.

Kayapháp-búngaw. *Marchantia* sp.

The habits and habitat of plants are frequently embodied in the autochthonous plant names, as in the case of this liverwort. The plant is creeping, *kayapháp*, and found along the wet banks, *búngaw*, or rivers.

Kuhútu'. *Panicum indicum* Linn.

Sand fleas are called *kuhútu'*, and the ordinary house lice, *kútu'*. As this plant is found on the sandy banks of rivers and brooks, it might account for the name, "sand flea."

Halapáng. *Alloteropsis semialata* (R. Br.) Hitchc.

The related physical characteristics of plants commonly stimulate the descriptive, local names. The tassel of this grass looks like the trident-like head of the bird arrow called *halapáng*; hence, this plant name.

Halóloy-pahínga'. *Kyllinga cylindrica* Nees

A sizable number of plant names coined by the Pinatubo pygmies are merely amusing, a humorous reference, as in this instance. *Halóloy* means "fish-stringer," and *pahínga'*, "frog"; thus, the "frog's fish-stringer."

Huhúka'. *Knoxia corymbosa* Willd.

The Pinatubo pygmies commonly form autochthonous plant names by an initial reduplication of the first syllable of a word base; for example, *dúdüngóy*, *Mimosa pudica* Linn., *tutúloy*, *Buddleia asiatica* Lour., *laláta'*, *Maoutia setosa* Wedd., *lalátay*, *Schismatoglottis* sp. (the latter plant also has no use), and others. Invariably, these coined plant names have a derived

meaning (see the discussions of *dūdūngóy* and *tutúloy*). *Húka*, means "vomit" which suggests that this plant causes vomiting. However, Quisumbing¹⁷ does not note that *Knorria corymbosa* Willd., is a vegetable poison and I neglected to obtain the meaning of this plant name to the pygmies.

ikoy-púha, *Setaria geniculata* (Lam.) Beauv.

The tassel of this grass suggests its name; "cat's (*púha*) tail (*ikoy*)."¹⁸ It is possible that some of the descriptive names, such as this one, have been borrowed and are not locally coined terms. The Tagalog, for example, call this same plant *buntót-púsa*¹⁹ which has the same meaning. However, translation of borrowed plant names would occur only when members of the culture were bilingual. It is more likely, I believe, that the same relationships were seen independently and the names coined independently.

Mágkakatinón.

Ipomoea pes-tigridis Linn.

Magduduhó.

Neritina aragoana Gaudich.

Máglalagyában.

Tacca vesicaria Blco.

Malakápah.

Mallotus sp.

Malakarí'

Atylosia scarabaeoides
Benth.

Katimón.

Citrullus vulgaris Schrad.

Duhó.

Kacmpferia sp.

Lagyában.

Tacca leontopetaloides
(Linn.) O. Ktze.

Kápah.

Ceiba pentandra (Linn.)
Gaertn.

Karí'

(not collected)

The above plant names (in the left column) of non-useful species have apparently been suggested by the relationship of these plants to useful plants. All of these names have been formed by the affixation of *mala* and *mag*, the latter with a reduplication of the first syllable of the word-base, and imply "likeness" of one plant to another. The plant names formed in this manner do not, however, necessarily denote the Negritos' ideas of "true" floristic relationships, as do such plant names as *kawáyan-mantúg*, and *kawáyan-killing*.

The affixation of *mala* to denote "likeness" is found in many, possibly all Philippine dialects. A plant name such as *malanibi*,

¹⁷ Quisumbing, Eduardo. Vegetable poisons of the Philippines. *Philipp. Jour. Forestry* (1947) 145-171.

Aristolochia sp., which is used by the Pinatubo pygmies, was probably borrowed with the affix included, for this plant name is found in many other dialects. Others, such as the above five names, were apparently coined by the pygmies utilizing methods of affixation characteristic of Philippine dialects as a whole.

When more ethnobotanical data is available for comparative purposes which clearly distinguishes the autochthonous plant name from the borrowed plant name (i. e., the "specific" plant name), it would be valuable to study the methods of affixation used by many ethnic groups in the formation of plant names. Such a study might show older linguistic and cultural relationships.

Páli-páli-laynl'. Andropogon nitidus (Vahl.) Kunth.

This grass which has a grain somewhat like rice is said to be the "rice (páli) of the laynl' (the Manikin or ricebird, *Lonchura* sp.)."

Pánan. Freycinetia sp.

No derivations or cognates were found for this plant name. The plant is sometimes called *panglán-bakf'*.

Págo-págo. Uvaria lagopodioides (Linn.) Desv.

The Negritos could give no explanation for this plant name and it is possibly specific and borrowed. *Kyllinga brevifolia* Rottb., according to Merrill, is called *pugó-pugó* in Cebu Bisaya.

Yaw-yáw-pahínga', Faurea umbellata Rottb.

This is another of the many amusing plant names obviously coined by the pygmies. *Yaw* means "arrow" or "bow and arrow," and *pahínga'*, "frog"; thus, this plant name means the "bow and arrow of the frog."

APPENDIX I

PLANT NAMES EMPLOYED BY THE PANATUBO NEGRETOS FOR WHICH COGNATES HAVE NOT BEEN FOUND.

- aipúgan. *Leptosolen haenkei* Presl.
 anggaga'. *Gomphandra cumingiana* (Miers.) F.-Vill.
 appláy. *Quisqualis indica* Linn.
 apyók. *Callicarpa formosana* Rolfe
 aymála. *Clerodendron* sp.
 bagóyboy. *Thysanolaena maxima* (Roxb.) O. Ktze.
 bagúng. *Amorphophallus* sp.
 bakálang. *Dioscorea* sp.
 bakúlih. *Celastrus paniculata* Willd.
 balikókák. *Streptocaulon cumingii* (Turcz.) F.-Vill.
 bangábak. *Macaranga grandifolia* (Bleo.) Merr.
 batlág. *Strychnos multiflora* Benth.
 bayágan. *Dioscorea ceculenta* (Lour.) Burkill
 búlók. *Gaioa koelreuteria* (Bleo.) Merr.
 binahak. *Schizostachyum* sp.
 boyugák. *Wendlandia luzoniensis* DC.
 bukó-bukó. *Blechnum pyramidatum* (Lam.) Urb.
 dakuúp. *Tetrastigma* sp.
 dalapúyín. *Loranthus philippensis* Cham. and Schlecht
 dalín. *Flacourtia indica* (Burm. f.) Merr.
 damimi. *Begonia* spp.
 daniók. *Clerodendron minahasae* Toyson and Binn.
 dapayan. *Leptosolen haenkei* Presl.
 diwát-ak. *Osbeckia chinensis* Linn.
 drunádok. *Mitrasacme polymorpha* R. Br.
 duplak. *Glochidion luzonense* Elm.
 duwiman. *Schizostachyum* sp.
 gankú'. *Schizostachyum* sp.
 gatú. *Ficus pubinervis* Blm.
 gawalyó'. *Chenopodium ambrosioides* Linn.
 gulunggát. *Thunbergia fragrans* Roxb.
 hayápók. *Eleusine indica* (Linn.) Gaertn.
 hópat. *Elephantopus spicatus* Aubl.
 hoppáy. *Cassytha filiformis* Linn.
 húláng. *Micromelum inodorum* (Bleo.) Tanaka
 kabwáng. *Dioscorea hispida* Dennst.
 kaláhou. *Aglala* sp.
 kalangyá'. *Abrus* sp.
 kalyámat. *Ficus bakeri* Elm.
 kamalingan. *Ficus subulata* Blm.
 kapard. *Salacia philippinensis* Merr.
 katin-ay. *Kleinhovia hospita* Linn.
 kítáng. *Merremia umbellata* (Linn.) Haller f.
 lagonháy. *Erigeron sumatrensis* Retz.
 lagpában. *Tacca leontopetaloides* (Linn.) O. Ktze.
 lának. *Rottboellia exaltata* Linn.
 langgtu'. *Securidaca corymbosa* Turcz.
 líka. *Centrosema plumieri* (Turp.) Benth.
 líkik-líkik. *Crotalaria* spp.
 líng'. *Sida acuta* Burm. f.
 mahoplák. *Grewia eriocarpa* Jesus
 malúko. *Anacardium occidentale* Linn.
 méa. *Miscanthus sinensis* Anders.
 mingtu. *Clerodendron intermedium* Cham.
 páhan. *Zingiber* sp.
 pakbát. *Antrophyum scabellifolium* (Cav.) Spr.
 pánan. *Freyinetia* sp.
 pangkól. *Arabis bipinnata* Bleo.
 pandyppoy. *Koeleratia elegans* Presl.
 pulfain. *Hymenodictyon exaltatum* (Roxb.) Wall.
 púdá'. *Pueraria phaseoloides* (Roxb.) Benth.
 tagaták'. *Abelmoschus moschatus* Medic.
 taludáyín. *Athyrium dhanshi* (Bergam.) Copel.
 tanggátum. *Solanum* sp.
 tanyóng. *Vaneria cochinchinensis* Lour.
 tayungtáng. *Meibomia polyanthum* Blm.
 tūmtām. *Hyptis suaveolens* Poir.
 ulip. *Cypholophus moluccanus* (Blm.) Miq.
 yábl. *Schizostachyum* sp.
 yápal. *Microsorium Schneideri* (Christ.) Copel.
 Hemionitis arifolia (Burm.) Moore

APPENDIX II

THE BOTANICAL TERMINOLOGY USED BY THE PINATUBO NECHITOS WITH
COMPARATIVE NOTES

Note: The following terms, unless specifically marked as exceptions, are identical, phonetically and semantically, with the Sambal spoken by the Christian lowlanders in the Municipality of Botolan, Zambales.

- alagwogkayu*, hollow tree
alalang, branchlet of bamboo
báyá, husked rice (*boyá*, Bot.-Sbl.)
báyáng, outer hard wood of palms
bágbag, an extensive forest tract containing large trees
balauít, the sheath at the base of palm fronds
balukágkag, peeling epidermis, e. g., of bamboo
bátang, log
blak, an internode of bamboo or canes
búkháy, strip of bamboo
búkhák, strip of rotten bamboo
búkal, flower (metathesis of other more common words for "flower," *bulaklák*, Bot.-Sbl., or *búlak* H.-Bis.)
bukbúk, weevils which attack bamboo
búki', bud or young fruit
bukók, the node of bamboo or canes
búhak, heartwood, or the hard core of plants
bulaklák, flower (*cf.* *búkal*)
bulóng, leaf
bunót, husk of the coconuts
bátíl, seeds of beans
but-ó, seed (also "hone")
buwál, mid-rib of individual leaves (*buód*, Bot.-Sbl.)
buwáy, infructescence of the bananas
kaññ, cooked rice (*kanñm*, Bot.-Sbl.)
kayákay, parasitic or epiphytic plant
kayapkap, ground-creeping plant
káyu, tree; wood
kínne, vine (*teakáy*, Iba-Sbl.)
kowát, mushroom or ear-fungus
dalig, buttress root
datíng, young leaves or leaf tops
duwi, thorn; spine
gabók, powdered corn or rice (by pounding)
gaw', dried length of bamboo
gald', coconut milk
guák, sheath of the banana stalk (*uók*, Bot.-Sbl.)
hda, bananas
halá', fuzz of flora
hangá, branch
háng', banana sucker
hóyboh, flower tassel of grasses
húnga', hole in tree
it, noise coming from a plant, e. g. the creaking of bamboo
kungót, tendril of plants
labók, fleshy, edible portions of fruit
labáng, edible growing tips of bamboo
lahí, kernel of corn
lak', forest (*tatalón*, Bot.-Sbl.)
lamán, specialized underground parts of plants, viz., tubers
lamón or *dikót*, grass (*hilámon*, H.-Bis., and *damo*, Tag., are related terms)
laóg, coconut fruit cluster
lápá, taro leaves
laták, seedling of cultivated plant which grew without purposeful planting.
láiwi, rattan
lumót, moss
lumtók, report of cracking bamboo, when caused by sunshine
lumtók, report of cracking bamboo, when caused by fire

- laptí, outer bark of vines (lapi, Bot.-Sbl.)
- maldáon, luxuriant growth
- mantág, true (e.g., a "true" type of plant)
- mitú, hard, sharp, shoots of grasses
- pakó, ferns
- páki, rice grain
- palákay, seedling
- palahén, edible growing tips of rattan
- páli, rice (in the field)
- palápa, a whole branch of a palm or banana
- pató, bast of vines or hanging roots (no cognate found)
- píhi, divisions of fruits, viz., of a citrus (also called *bih-il* by the Negritos, and *bíhíl*, Bot.-Sbl.)
- pípi, flower of the taro (no cognates found)
- páke, clump of trees (obviously derived from usual term for "island")
- pulyó, tall, young bamboo, bamboo shoots
- pínúho, ear of corn
- pión, bole of tree
- tadók, edible, young leaves or leaf tops (tarók, Bot.-Sbl.)
- tagáibag, denoting plants the fruit of which birds do not eat
- tagóy or bínga, fruit (no cognates found for tagóy)
- taxón or taxáman, plants, (generic term)
- táaw, roots which grow deep in the ground, and then come to the surface again, viz., roots of ábi
- tíak, thick growth of grass
- tipukhó, a young mushroom which is not yet opened
- toktók, drinkable water obtained from plants
- tingting, mid-rib of palm leaves
- títí, flowers of bamboo
- tumpók, corn-cob
- úbakkáya, bark of trees
- úbol, the tender, edible growing part of palms within the terminal crown of leaves
- umhók, edible roots of taro
- ungót, coconut
- úpah, dried sheath of the banana stalk
- unóy, head, or blade, of rice
- yábot, kagun
- yagáw, branch of a dead tree or fuel
- yagót, leafless tree
- yamót, root
- yatáng, root climbing on a cliff, or hanging down over a cliff (no cognates found)
- yubág, a tree without branches, but with a crown, viz., a palm
- yúdo, an edible starch obtained from the trunks of specific palms (yáro, Bot.-Sbl.)

ILLUSTRATIONS

Line drawings are by Manuel M. Santiago of the National Museum. The photographs, Plate 6, fig. 4, and Plate 16, fig. 5, were obtained by Mrs. Hans Steiner while on a field trip with the writer. All of the other photos were taken by the author using a 35 mm Leica camera. Five other recent photographs of the Villar area can be found in McVittie's *Orchid hunting in Zamboanga*, *Philippine Orchid Review* 12 (1949) 23-24.] 23-24.]

PLATE 1

A distribution map of the Pinatubo Negritos showing the trails, villages, topography, and the area of intensive ethnobotanical and ethnographical study.

PLATE 2

- FIG. 1. A scenic shot looking down from the middle talus slopes of Mt. Pinatubo towards the Bacao River Valley, and in the far distance, the China Sea. The typical environment is shown; upland grasslands, scattered secondary-growth forests, and stands of the wild banana.
2. Showing the method in which water is obtained from the wild fig, *Ficus nota* (Blanco) Merr.

PLATE 3

1. A typical river scene. My close friend and informant, Emilio Balintay, has just finished diving and shooting fish from under the water.
2. A family group at Balin-Biklat who were temporarily living along the river. They were cooking fish and shrimp which they had caught, as well as a *baón*, "provision," of the sweet potato which is invariably carried with them when they travel.
3. The Bangan-Lábaw River near Villar with *tambó*, *Phragmites* spp., and the conifer-like, *agoho*, *Casuarina equisetifolia* Linn., lining the banks. The young man of mixed blood in the foreground rests in the characteristic squatting position called *takimpo*.

PLATE 4

- FIG. 1. These are "deep" Negritos—most of the inhabitants of Gwáilda—who are relatively unmixed and who still evidence the pygmy type.
2. A young man at Yamtók demonstrating how the two-stringed bamboo zither is played. Note the sweet potatoes.
 3. A clearing of corn and upland rice at Pandwin which shows the characteristically poor growth of these crops. The man is wearing a bamboo comb.

PLATE 5

- FIG. 1. A "dandy" wearing the *binikndi* style of loincloth which has a long tail.

2. This man is wearing the everyday type of loin cloth with an additional waist wrapping. Note the home-made shotgun that he is holding.
3. The *takapina* style of G-string normally worn by the young boys.
4. The typical dress of the contemporary Negrito women; a wrap-around skirt and slip-over waist. Note the method by which the woman carries the pack-basket and the fire brand, the *cypoh*, in the woman's left hand.

PLATE 6

- FIG. 1. Two men at Kawayan stretching and twisting the trimmed bast of a hanging root into a bow string.
2. The method employed in scraping a bow into the desired shape.
 3. Attaching the feathers to the shaft with the trimmed bast of plants by rolling the arrow against the thigh.
 4. A young boy with a bow and arrow made of bamboo.

PLATE 7

- FIG. 1. The unusual *bisullat* or *bisiling* type of arrowpoint which is extremely difficult to make and which is highly prized by the Negritos.
2. The *dumplil* type of arrowpoint which is now employed for payments of the bride price but which was formally used in fighting.
 3. The *niyumbung* arrowpoint employed in shooting large fish, snakes, monitor lizards, fruit bats, and large birds.
 4. An arrow with a large metal blade, the *sal-d*, for hunting pigs and deer.
 5. The *Añbát*; an arrow with a detachable point. Note the *lobingan* (a), that is, the intermediate piece of hard wood, the strong cord (b), securing the point to the shaft, and the *gauff* (c), a protective weaving around the foot of the shaft.
 6. The *balangát*, a trident-like point, used in shooting birds and bats.

PLATE 8

- FIG. 1. The methods employed by the Negritos for measuring the proper lengths of the different types of arrows. In this manner, each individual has arrows of distinctive length. "A" and "B" are the proper measurements for "hunting" arrows such as, the *niyumbung*. "C" and "D" are the proper measurements for the "flight" arrows. The bird arrows, the *balangát*, are equal to the length of the full arm span plus one or two lengths of the first finger.
2. The *kopát*; a protective covering for the finger grip.
 3. Showing the relationship between the inner wrapping, *balbát* (a), and the outer wrapping, *apán* (b).
 4. The typical arrow grip.
 5. The bow string knot.
 6. The bamboo point used with the "belatic" types of trap.
 7. X-sections of bows utilized by the Pinatubo Negritos.

8-18. The common decorative patterns found on the arrowshafts.

The incised designs of the following figures have specific names: (8) *niápal*, (9) *kinawing*, (10) *halóbung*, (13) *tínih-tatló*, (15) *hiko-hikoh*, (17) *papápin*, (18) *kinimpáy*, if this same design points to the left, *ginagáman*. One or more simple vertical lines are called *gálik*, but if horizontal, *kúyit*. As we have noted, the general term for incising is *bátik*. The design element shown in Fig. 11 is wholly magical and placed on the arrows so that the spirits of the forest will not be angry at the user of the arrow. The design *halóbung*, Fig. 10, is never placed on hunting arrows, or on arrows which are carried on a trip. Something dangerous will happen or an accident will occur to an individual travelling or hunting with an arrow having this design element. It commonly appears on arrows utilized for bride price.

PLATE 9

- FIG. 1. The *katána* which is used in fighting, as gifts to the spirits, for bride price, and in ceremonies.
2. The *dipaláta* (a) which has the same uses as the *katána*; (b) x-section of the bolo scabbard showing method of construction; (c) the traditional form of bolo scabbard made by the Pinatubo Negritos.
3. The *talódo*; a thick bladed work bolo.
4. The *aweddag*; an all-purpose bolo. One of this type of bolo is possessed by every Negrito man and is worn on most occasions.
5. The *ádo!*; a work bolo.
6. The *engháb*; also a work bolo.

PLATE 10

- FIG. 1. Two young boys having enlarged abdomens, called *yúkyák*, which are so common among the Negrito children.
2. A young boy whose body was almost totally infected with dermatosis. This is a common sight in some of the deeper Negrito villages.

PLATE 11

- FIG. 1. The *kawóng*; a pup-tent like temporary dwelling.
2. The *timpó*; this particular dwelling, as can be seen, was built almost entirely of bamboos.
3. The box-like *dalupón*; a unique type of dwelling found among the Pinatubo Negritos. Note the stands of *Bambusa* spp., in the background and the grass table-lands.

PLATE 12

- FIG. 1. A crude temporary shelter commonly encountered along the rivers.
2. The *tinawgúb*; the most common dwelling form built by the Negritos in the Pinatubo area.
3. This dwelling, like many, is built of limbs and the dried sheath stripped from the stalk of the wild banana. The peak of Mt. Pinatubo is seen in the background about six kilometers away.

PLATE 13

- FIG. 1. A forge at Koyumbót.
 2-3. The piston before and after the feathers forming the gasket have been attached.
 4. A forge at Yamtók fastened to the living platform of the dwelling. Note the stakes between the shield and the bellows which, as we have seen, have a magical function.

PLATE 14

- FIG. 1. The *lubón*; the characteristic pack basket of the Negrito women.
 2. A winnowing tray made by the Aburlin pagans but commonly utilized by the Pinatubo Negritos.
 3. The *talín-talín*; an all-purpose, household basket.
 4. The *bulín-panting*; a small basket which houses the "strike-a-light" and other small personal effects. This photo has been greatly enlarged to bring out the details of the basket, for it is only about 5" long and 2" or 2½" high.
 5. The *dandán*; a woman's pack basket made of rattan.
 6. The *tapóda*; a crude basket used by the women while working in the clearings.
 7. The *koyumpót*; a "fishing-creeel."
 8. The *lubón-lubón*; a small pack basket.
 9. A typical *lubón*, pack basket, with a head strap made of the dried sheath of the banana stalk.
 10. The *sakopít*; a men's pack basket supported with shoulder straps.

PLATE 15

- FIG. 1-3. Bamboo combs from southern Zambales. Note that the incised designs are identical to those found on the arrowshafts (Plate 8, figs. 8-18). In southern Zambales and Bataan these combs are worn by the women.
 2. Small bamboo comb worn by the men in the Pinatubo area.
 4. The *tabúngbúng*; a bamboo zither.
 5. The *kalibáo*; a "jew's harp" made from bamboo.
 6. Neolithic stone tools found by the Negritos in the Fort Stotenberg area and used as talismans.
 7. Water goggles, the *antáko*, made from tubular bamboos.
 8. The *bibidangan*; a "calendar." When all of the pegs are on one side, it is Sunday or *madawák aló*, the "bad day." Monday through Saturday correspond to the Spanish names: Lunes, Martes, Miercoles, Huebes, Biernes, and Sabado. When a peg, beginning at the top, is shifted to the opposite row of holes, it is Monday, and so on until all of the pegs have been shifted to the opposite row. Very probably this device has been borrowed from the Sambal but at present it is not found among the latter group. The Negritos also keep track of the days by making marks with charcoal on the houseposts, and by tying knots in a string. The latter device is called *gafú*.

FIGS. 9-11. Necklaces having magico-medicinal value made from the long bones of monkeys, tails of civets, and the upper and lower jaws of the giant "rat."

PLATE 16

- FIG. 1. A Negrito woman at Bulate, Bataan, wearing a bamboo comb.
2. A Pinatubo Negrito boy at Villar, Zambales, wearing a smaller bamboo comb.
3. This photograph shows the *lampah*; an artificial hair-line on the forehead.
4. A typical Negrito woman wearing a necklace of seeds and monkey long-bones.
5. A boy showing the chipped incisors which are characteristic of all of the Negritos in the Zambales Range.
6. A man wearing the *baghidi*, a "neck band." Note that he is smoking a cigarette with the lighted end in his mouth.

PLATE 17

- FIG. 1. Guitar makers at Kawayan, Zambales.
2. A young girl demonstrating the method in which the guitar is played.

PLATE 18

- FIG. 1. A large strip of bark to be used as a coffin drying in the sun.
2. The body of a woman wrapped in this same bark and tied with vines. The coffin is on a litter ready to be carried to the grave.