Traditional Uses of the Vascular Plants of Ulithi Atoll, with Comparative Notes

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Abstract—The vascular plants of Ulithi Atoll in the Caroline Islands of Micronesia are identified by their botanical and vernacular names, and the various ways in which they have traditionally been utilized are described, without necessary reference to techniques of horticulture, preparation, or consumption. Comparisons are made with the vernacular names and the uses of the same species on other Carolinian islands for which reliable information is available.

Introduction

The principal purpose of this study is to identify the 95 species of vascular plants of Ulithi Atoll that were collected or sight recorded by me in 1947 and, to a lesser extent, 1948–1949 and 1960. Most of the plants are represented by specimens sent to the Bernice P. Bishop Museum in Honolulu, where they were determined by Marie C. Neal, except as noted in the text. A secondary aim is to offer to the botanist and the anthropologist a list of the vernacular names of the plants, not only for Ulithi but as many islands of the Carolines (here including Palau) as possible, stretching all the way from Sonsorol in the extreme west to Kusaie in the extreme east, a distance of roughly 3200 km. I am convinced of the great usefulness of vernacular names in establishing the true identity of plants; they have been of inestimable value to me in making corrections and opening up unsuspecting leads. As a third objective I have attempted to point out not only the traditional Ulithian uses—economic, medicinal, aesthetic, and magical—of the plants but their uses also on other islands of the Carolines, particularly atolls. Underlying all these aims is the hope that this information will salvage something for the people who live in these islands and are witnessing an irreversible erosion of their indigenous way of life. Rapid acculturation has proceeded to such an extent that the uses listed for each plant are disappearing. If the present tense is used in matters of culture it is only in the sense of the "ethnographic present," a rough approximation to the situation that existed prior to any serious effects brought about by contact with the industrial world.

Ulithi Atoll is the most northerly of the Carolines and is located at coordinates of 10°05′ N. and 139°43′ E. at Mogmog Island. Of its more than 30 islets, Mogmog is the political center but Falalop is by far the largest in area. Each of these two islands, as well as a few others, has in its interior a natural depression that has been

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converted into a swamp garden where many valuable food plants are grown, the soil there being rich in humus. Land is owned by matrilineal lineages but is worked by family units having strong patrilineal usufruct rights to the plots assigned to them. Until recently, the political head of the atoll was a "king" who inherited his position by virtue of membership in one particular lineage; but everyday power and authority has always been exercised by village councils of elders. The size of the population fluctuates, there being 421 inhabitants in 1949 and 514 in 1960, with a recorded high of 797 in 1903. There is frequent contact with other islands, especially Yap 137 km WSW and Fais 77 km E. Ulithi is very close culturally to all those islands to the east known collectively as The Woleai, which extend almost all the way to Truk, and is close even to Truk itself.

The sources of the comparative information utilized here for the Caroline Islands are arbitrarily limited to publications and unpublished notes dating from 1946 on. I have discovered that for my purposes any materials prior to that year cannot always be relied upon, partly because of misdeterminations of plant species and errors in the recording of vernacular names, and partly because of the numerous revisions in species nomenclature that have been made in the last three decades. Rather than try to salvage what I could from the older records, I have simply cut the Gordian knot. This means that I have had to eliminate a vast amount of material from Palau, Yap, Ponape, and Kusaie, but this is not as great a loss as might appear. For one thing, much botanical research has been done since 1946 on most of these islands. For another, the islands in question are all high islands rather than atolls with environments comparable to that of Ulithi. In addition, the language spoken in these four places diverge so much from the Ulithian as to constitute more than mere dialectical differences. Indeed, the language of Palau is more Indonesian than Micronesian, and even that of nearby Yap is classed rather doubtfully as Micronesian. By contrast the languages of most of the atolls belong, like Ulithian, to the Carolinian branch of the Malayo-Polynesian family, especially Trukese (with Woleaian), and to a much lesser extent Ponapean and Kusaian.

The incompleteness of my coverage is due not only to the reasons given above but also the absence of information. Some Caroline Islands have not been researched botanically, at least not since 1946, and some plant uses and vernacular names are omitted in both published and unpublished materials. I wish to add that for various reasons I have not attempted to distill such kinds of information, except infrequently, from basically ethnographic sources; instead, with a few notable exceptions, I have confined myself to botanical reports.

The islands that I have included in my comparative survey, together with the sources from which they are derived, are listed below. Where there was more than one source, the principal one has been indicated by an asterisk [*]. Sources designated as "field notes" refer to notations accompanying plant specimens in other collections deposited in the Bishop Museum. The order in which the islands are listed is in a general west-east and north-south direction, as follows:

Sonsorol: *P. T. Berry, field notes; Capell 1969.

Palau: B. S. Blackburn, field notes; *F. R. Fosberg, field notes; Sheila Hardy, field notes; H. St. John, field notes.

Yap: *S. H. Elbert 1946; unpublished notes by Margey Cushing Falanruw.

Fais: F. R. Fosberg and M. Evans 1969; *M. Evans, field notes.

Woleai: *W. H. Alkire 1974; M. Evans and F. R. Fosberg, field notes.

Eauripik: M. Evans and F. R. Fosberg, field notes.

Ifaluk: *M. Bates and D. P. Abbott, field notes, and MS; E. G. Burrows and M. E. Spiro 1953; F. R. Fosberg, field notes.

Lamotrek: W. H. Alkire 1965.

Satawal: F. R. Fosberg 1969.

Puluwat: *S. H. Elbert 1972; T. Gladwin.

Namonuito: B. C. Stone 1959.

Murilo: B. C. Stone 1959.

Nomwin: *M. Evans and F. R. Fosberg, field notes; B. C. Stone 1959.

Truk: D. Anderson, field notes; *S. H. Elbert 1947a; F. R. Fosberg, field notes; F. M. LeBar 1964; B. C. Stone 1967, and field notes.

Namoluk: M. Marshall 1975.

Satawan: D. Anderson, field notes.

Lukunor: D. Anderson, field notes.

Ant: *S. F. Glassman 1953, and field notes. Caution: The native population emigrated to Ponape in the last century. Glassman's informant was probably from the Mortlocks or Truk.

Ponape: W. R. Bascom 1965; Fischer, Riesenberg, and Whiting, 1977; *S. F. Glassman 1952; Riesenberg, 1948.

Mokil: *S. F. Glassman 1953; R. E. Murphy 1953.

Pingelap: S. F. Glassman 1953; *H. St. John 1948.

Kusaie: F. R. Fosberg, field notes.

Aside from the above sources, many vernacular names have been taken additionally from F. R. Fosberg 1946. These have been indicated in the text by placing the name "Fosberg" and his plant number in parentheses after each vernacular name.

The orthography that I have employed for Ulithian words is that devised by S. H. Elbert (1947b). Some orthographic symbols important for pronouncing these words are: *ä* as in "hat"; *ï* somewhat as in "hit"; *ȯ* like "a" in "all"; *ö* like "oo" in "book"; *ü* somewhat like French "u" with a suggestion of "i" before it, like a fast "few". To Elbert I have added *u̇* as in "sun", and sometimes replaced his *g* with my voiceless palatal fricative *kh*. Diacritical marks are important for distinguishing certain words from each other, e.g., *iar* is *Premna gaudichaudii*, whereas *iär* is *Dioscorea* sp.

Unfortunately, the orthographies used by botanists, geographers, and anthropologists for the vernacular names of plants collected on other islands usually differ from Elbert's simple system for Ulithi, making the detection of cognates harder than they would be if there were but one system. The number of such systems is almost as great as the number of reporters. I have not attempted to reduce them

to a common orthography; instead, within the limits imposed by practical typographical considerations, I have faithfully rendered them as they were in the original. It has often turned out that differences in vernacular names are due more to differences in orthography than phonemes. It may be helpful for the reader to know that for the islands where Trukese is spoken the following consonant changes occur between Ulithian and Trukese: Ulithian *l*=Trukese *n*; *g*=*k*; *h*=*k*; Ulithian *h* is omitted in Trukese; *th*=*t*; *t*=*s*; Ulithian *s* is omitted in Trukese (Elbert 1947b).

The arrangement below of the plants by families and genera follows the phylogenetic system of Engler and Prantl, with some modifications made in the light of current revisions by botanists, especially the raising of the Parkeraceae and Asplenaceae to independent status instead of including them with the Polypodiaceae. In attempting to bring the classification up to date I have relied a good deal on Benjamin C. Stone's *The flora of Guam* (1970–1971) and Harold St. John's *List and summary of the flowering plants in the Hawaiian Islands* (1973), but I have also utilized other botanical publications. All have been particularly useful in selecting the synonyms that are often listed below each main taxon, with the expectation that such synonyms will prove useful in clearing up problems of identification. Ulithian vernacular names are given to the far right of each principal taxon. For the nonspecialist it may be of interest to know their English vernacular equivalents, these being given wherever they are known. The islet source of each specimen or sight record is indicated.

PARKERIACEAE (Water Fern Family)

Ceratopteris thalictroides (L.) Broggn. *walbwong*

C. siliquosa (L.) Copel.

Mogmog I., Lessa No. 97, 1947 (Bish. No. 96115); det. M. Neal. In 1951 Otto Degner made a notation on the specimen that reads: "*C. siliquosa* (L.) Copel."

VERNACULAR TERMS

English "swamp fern"; Woleai *matil*; Ifaluk *pegalamuel, pegalimweli.*

USES IN ULITHI

A somewhat succulent fern used for medicine and leis.

ASPLENIACEAE (Asplenium Family)

Asplenium nidus L. *rokhtaf*

Mogmog I., Lessa No. 70, 1947 (Bish. No. 97790); det. M. Neal.

VERNACULAR TERMS

English "bird's nest fern"; Yap *chath*; Woleai *ilunug, nugnug*; Ifaluk *enenux, ulenug, ulunuch*; Satawal *cherluk, reluk*; Puluwat *rééllúk*; Truk *nnuk, nük*; Namoluk *lek*; Ponape *tahlik*; Pingelap *seilik*; Kusaie *moiluluk* (Fosberg 26533).

USES IN ULITHI

An epiphytic fern used medicinally to induce menstruation and (when mixed

with the leaves of *Ficus virens*) to treat a serious disease called *mai*, said to be caused by possession by a tree spirit.

COMPARATIVE USES

In **Ifaluk** lumps from the roots are pounded together with coconut husk and heated, and the hot bundle is pressed against the anus to treat dysentery; the fronds are cured in the sun and worn as a scanty covering by young girls by tucking them under their belts before and behind. In *Puluwat* the leaves are used to line preserved breadfruit pits. In **Namoluk** the fronds are sometimes used to line pits for preserved breadfruit and to wrap food for cooking; the plant also has medicinal uses.

POLYPODIACEAE (Fern Family)

Nephrolepsis exaltata (L.) Schott? *hamarakh*

Mogmog I., Lessa No. 58, 1947 (Bish. No. 80714); det. by M. Neal originally as *Nephrolepsis* sp. but redetermined in 1976 by H. St. John as "probably *N. exaltata.*" (No sori appear on the fronds of the specimen; the leaves are sterile.)

VERNACULAR TERMS

Ifaluk *gamarek*; Truk *amääre*; Ant *ahmereh*. Many other cognates of Ulithian *hamarakh* occur throughout the Carolines but they are applied variously to *Nephrolepsis* sp., *N. acutifolia* (Desv.) Christ, and *N. biserrata* (Sw.) Schott.

USES IN ULITHI

A fern used medicinally. Also, the public fish magician waves a frond back and forth during his incantation over the end pieces of a canoe about to sail on a month-long annual ritual for assuring the people of an abundance of fish.

COMPARATIVE USES

In **Ifaluk** the ferns are used in making a medicine for small children.

Polypodium scolopendria Burm. f. *chichi*

P. phymatodes L.

Microsorium scolopendria (Burm.) Copel.

Phymatodes phymatodes L.

Phymatodes scolopendria (Burm.) Ching

Mogmog I., Lessa No. 54, 1947 (Bish. No. 105803); det. M. Neal as *Polypodium phymatodes* L., but specimen sheet has written on it "*P. scolopendria* Burm. f. 1958."

VERNACULAR TERMS

English "oak leaf fern"?; Palau *aba áb*; Yap *gob, gobgob*; Fais *chichi*; Ifaluk *riri, tritri*; Satawal *rir'ri*; Puluwat, *riiri*; Namonuito *tiji*; Nomwin *chichi, chiichi* (Fosberg 24583); Truk *chichi* (Fosberg 24686), *sichòn, sochin* or *wonum, wënnümey*; Namoluk *chichi*; Ant *see-see*; Ponape *kiteu*; Mokil *kamkam*; Pingelap *kitiu.*

USES IN ULITHI

An epiphytic fern whose leaves are used medicinally, as in the treatment of sometimes fatal *misngau*, or swellings, lumpiness, and reddening on the arms, legs, and body (measles?). The leaves are also used to treat *meselpikh*, or colds and

influenza, which are believed to be caused by black magic from Yap to punish Ulithians for certain transgressions. The fern is mixed with another ingredient to make a medicine for treating a disease called *iùlau*, said to be contracted by travelers who violate certain food taboos.

COMPARATIVE USES

In **Palau** the leaves are applied to wounds. In **Fais** the plant is used medicinally. In **Ifaluk** the still-green leaves are used for the scanty covering that young girls tuck under their belts before and behind; the leaves are mashed, the pulp wrapped in leaves of *Morinda*, cooked, and used as a poultice; the leaves are buried in the wet gardens as green manure; the leaves are attached to the outrigger of a canoe to ensure the presence of fish whenever a canoe goes out after them. In **Puluwat** the leaves are used to line preserved breadfruit pits. In **Truk** the leaves are pounded and added to gratings of the fruit of *Parinarium glaberrimum* to make a perfume; the leaves are used in leis for love magic; the root is pounded and the juice is squeezed with coconut oil and rubbed on aching limbs. In **Namoluk** the leaves are used in leis and to cover food to be baked in an earth oven; the leaves and runners are used medicinally. In **Nomwin** the fronds are used to wrap breadfruit for cooking. In **Ponape** the leaves are used by native women for relieving pains after childbirth, and to treat "disease of mangroves" and a certain children's disease; the stems are used to treat any wounds.

PANDANACEAE (Screw Pine Family)

Pandanus spp. *fach*

Mogmog I., Lessa No. 9, 1947; det. M. Neal only from leaves as *P. tectorius*, but H. St. John states that the mature fruit is needed to make a proper determination by species. Probably several varieties and even more than one species exist on the atoll.

VERNACULAR TERMS

English "pandanus," "screw pine"; Sonsorol *fa:s*; Woleai *fach* (general term); Ifaluk *far*; Satawal *fach* (for P. *tectorius*); Puluwat *faar*; Namonuito *fàch* (general term); Murilo *fàch* (general term); Nomwin *fàch* (general term); Truk *fach* (general term); Namoluk *fach* (general term), certain species or varieties are called *fachaire, fachewel, lifach, pokou,* and *sillau*; Ant *fahss*; Ponape *kipär, rahrah, thäipw*; Mokil *kebar*; Pingelap *kipai.*

USES IN ULITHI

The leaves of the tree are used to manufacture all kinds of matting, such as roofing thatch, canoe sails, purses, mats, and hats. The wood is used for house posts, roof poles, rollers for hauling loads, combs, firewood, and amulets. However, the wood is permanently taboo as firewood to the canoe navigator. The aerial roots are used to make twine and lashings. The fruit may be used for drinking water but it is not eaten. Medicinally, the tips of young leaves are mixed with various parts of *Messerschmidia argentea* to make a medicine bundle that is held

against a baby's ensiform process to stop vomiting. The tips of the roots are used to treat *burufas*, or constipation. The bark is used to treat *thilfekh*, or pains in the chest caused by some spirit.

COMPARATIVE USES

In **Ifaluk** none of the three varieties of pandanus are eaten; the leaves are plaited to make sails, fine baskets, sleeping mats, roofs over the platforms of canoes, and conical shaped hats, and are tied around the bases of trees to keep off rats; the wood is used for house king-posts, supports for the overhanging ends of roofs, and slats to form the floors of canoe platforms; the fragrant flowers are fastened together to make head garlands. In **Satawal** the fruit of *P. tectorius* Park. is not eaten. In **Puluwat** sails are made of the plaited leaves, which are also used for mats and thatch. In **Namonuito**, **Murilo**, and **Nomwin** the pandanus is, next to the coconut palm, the most useful plant in all three of these atolls; there is a large number of varieties, two of which are highly prized for their edible fruits, but on occasion several of the "wild" forms are used for food; the leaves of all the varieties provide thatch for roofing and walls, and plaiting material for mats, handbags, handicrafts, and, in ancient times, sails; the root fibers are useful for temporary cordage. In **Truk** the fruit is eaten only occasionally; the prop roots are used to make lobster traps, the leaves are plaited to make baskets and sleeping mats, and are fashioned into conical hats for men and women. In **Namoluk** the leaves of all varieties are used to make thatch for roofing, canoe houses, cooking houses, and traditional sleeping houses; ripe fruit is eaten or chewed; the *fachawel* variety is used in sleeping houses and canoe house construction; young aerial roots are used as "thread" to sew leaves into large panels for thatching, and to make fish traps; leis; mats; hats, and handicraft items; the leaves are used to line preserved breadfruit pits; various parts of various varieties are used medicinally. In **Ponape**, of the five varieties recorded some are wild and others cultivated, but except for one variety none grows well; the fruit of four varieties is eaten, being chewed like sugar cane, only in passing, but the fruit of two of these varieties is also baked in hot stones; juice from the bark of young roots is given after childbirth to strengthen a woman. In **Mokil** pandanus is a very important plant; the fruit of some of the varieties provide food; the leaves of most of the varieties furnish the atoll's prime thatching material, as well as material for making mats, hats, canoe sails, and various other handicraft; the trunks serve as crosspieces in all boat houses since they do not sag. In **Pingelap** the trees furnish edible fruits, timber, and leaves used for thatch.

GRAMINEAE (Grass Family)

Chloris inflata Link. (no vernacular name)

C. barbata (L.) Sw. (superfluous)

C. paraguayensis Steud.

Andropogon barbatas L.

Mogmog I., Lessa No. 67, 1947; det. M. Neal.

VERNACULAR TERMS

English "swollen fingergrass."

USES IN ULITHI

Apparently there are no uses to which this grass is put.

Saccharum officinarum L. *mäkïl*

Mogmog I., Lessa Nos. 118, 119, 1947; sight records. Two local varieties are: 118. *mäkïl chacha* ("red sugar cane") and 119. *mäkïl bwech* ("white sugar cane").

VERNACULAR TERMS

English "sugar cane"; Woleai *wo*; Ifaluk *wou*; Puluwat *woow*; Namoluk *uou*; Ponape *sehu, seu*; Mokil *tu*; Pingelap *seu.*

USES IN ULITHI

A grass sparsely cultivated for the sweet juice extracted by chewing and sucking the stalk.

COMPARATIVE USES

In **Ifaluk** it is cultivated in the swamp garden but chewed only occasionally, mostly by children; sometimes it serves as a marker between land holdings. In **Truk** it is the chief source of food when working in the bush, and is chewed intermittently throughout the day. In **Namoluk** it is cultivated for the sweet juice of its stalks; the source of sugar; used medicinally. In **Ponape** it is cultivated and is well liked but is eaten only in small quantities, after or between meals; it is regarded as more of a drink than a food.

Thuarea involuta (G. Forst.) Roem. & Schult. *fathil fefel*

Ischaemum involutum G. Forster.

Mogmog I., Lessa No. 61, 1947; det. H. St. John.

VERNACULAR TERMS

English "bird's head grass"; Woleai *fatïl*; Ifaluk *bwogori*; Satawal *fetilupuai*; Truk *fetin* (Fosberg 24682), *unòm, unnòm*; Ant *fahtil*; Mokil *mukhharak*; Pingelap *mokarăk.*

USES IN ULITHI

A prostrate grass forming a loose mat, used medicinally.

COMPARATIVE USES

In **Truk** it is used for small fish traps.

CYPERACEAE (Sedge Family)

Fimbristylis cymosa R. Brown *bwöger*

Mogmog I., Lessa No. 60; originally, det. by species was not made by M. Neal due to the absence of the fruit in the specimen, although the flower was present. However, an inspection of the specimen at the Bishop Museum herbarium by Tetsuo Koyama caused him to make the determination *F. cymosa* ssp. *umbellato-capitata* (see Koyama, 1964). A recent personal suggestion by St. John is that the

specimen is *F. spathacea* Roth, which according to Koyama's nomenclatural revision is a synonym for his *F. cymosa* ssp. *spathacea* (Roth) T. Koyama, as is also *F. atollensis* H. St. John. Inasmuch as the difference in determination lies only in the subspecies, the species taxon *F. cymosa* is here judged to be valid for the specimen. *F. cymosa*, sometimes reported under its synonyms, is found throughout the Caroline Islands.

VERNACULAR TERMS

Ifaluk *bwongeringas* (for *F. atollensis* or *F. cymosa*); Satawal *pukarangas* (for *F. cymosa* R. Brown); Truk *puker* (for *Fimbristylis* sp.); Namoluk *puker uon fanu* (for *F. cymosa* R. Brown); Ant *apuson* (for *F. atollensis* St. John); Mokil *puror-entoge* (for *F. atollensis* St. John); Pingelap *rosakai* (for *F. cymosa* R. Brown).

USES IN ULITHI

A sedge employed medicinally, the leaves being used to treat *thepetamae*, or nausea and lack of appetite.

COMPARATIVE USES

In **Ifaluk** juice from the roots is used medicinally. In **Truk** the plant is used for stomach disorders. In **Namoluk** it is used medicinally, and in olden times was used to make fish lures.

PALMAE (Palm Family)

Areca cathecu L. (as catechu) *bu*

Falalop I., Lessa No. 152, 1960; sight record. The palm was not mentioned by informants in 1947 and 1948–1949. There was only one tree in 1960. The species was sight recorded in 1909 by Paul Hambruch and F. E. Hellwig, members of the Hamburg Südsee-Expedition.

VERNACULAR TERMS

English "betel nut palm," "areca palm"; Yap *bu*; Ifaluk *pu*; Truk *pu*; Ponape *poo, pü.*

USES IN ULITHI

The nut is cut up and placed with some powdered lime on a betel pepper leaf, and is then molded into a small ball and masticated as a stimulant. While most adult men are familiar with the practice and indulge in it whenever the opportunity presents itself, the supply of nuts comes almost entirely from Yap and the habit is usually acquired through long and frequent sojourns in those islands.

COMPARATIVE USES

In **Ifaluk** the nut is chewed with *Piper betle* leaves, but only a half dozen of the palms were growing in the atoll in 1947.

Cocos nucifera L. *lu*

All islands, Lessa Nos. 132–137, 1947; sight records. Six local cultivars are: 132. *lu iol* (nut has yellow husk); 133. *lu harau* (nut has green husk); 134. *lu cha* (nut has reddish husk); 135. *lu mau* (nut has green-brown husk); 136. *iethol* (nut has

Fig. 1. *Areca cathecu*, seen behind the man. The betel nut palm is rare in Carolinian atolls.

an edible husk); and 137. *lu gap* (nut is very small and has syrup-like water).

VERNACULAR TERMS

English "coconut," "coco palm"; Sonsorol *iru*; Yap *niu*; Sorol *lu*; Woleai *lü*; Eauripik *lun*; Ifaluk *lu, nu*; Lamotrek *lü*; Satawal *nu*; Puluwat *nü*; Namonuito *nu*; Murilo *nu*; Nomwin *nu*; Truk *nü*; Namoluk *nu*; Ant *nu*; Ponape *nï, nih*; Mokil *ni*; Pingelap *ni*.

USES IN ULITHI

All parts of this palm, which is vital to human living, have some use, whether economic or otherwise. The most important uses are nutritional. (Although the liquid of the young nuts that is used as the principal source of drinking water has little nutritional value, the nut is rich in protein, carbohydrate, fat, iron, phosphorous, niacin, and ascorbic acid.) The nut may be eaten raw or cooked; the spongy embryo that fills the center of the sprouting nut is eaten raw. Even the husk of the *iethol* variety is eaten in the young stage. Despite the extreme sweetness of the *lu gap*'s water, this variety is not particularly favored and is not common. The

flesh of the nut may be fed to pigs and chickens. The "cream" made from the grated flesh of ripe nuts is cooked with fish and with taro, breadfruit, squash, sweet potatoes, and other vegetables. The sweet sap or toddy extracted from the coconut blossom or inflorescence is drunk daily, especially by children, and nowadays is often made to ferment into a wine, a custom of alleged recent introduction. In concentrated form the sap is made into a thin syrup or hardened into a kind of candy. The oil extracted from the nut is used as a toilet preparation for the hair and skin, but it is also added to food. The oil is of great importance as an offering to gods and ancestral spirits, as well as tribute to chiefs on Yap and gifts to local chiefs. The shell of the nut is used to collect toddy from the trees, and is used for cups, spoons, ladles, and drinking vessels, as well as fishhooks, necklaces, women's ornamental belts, finger rings, and armbands. Whole ripe nuts are used as stools and head rests, and they are employed in the magical rituals of such specialists as fish magicians, navigators, and canoe carpenters. Certain small coconuts known variously as *lu gap, lu lap,* or *lu tetel* (see above) are taboo to magicians while exer-

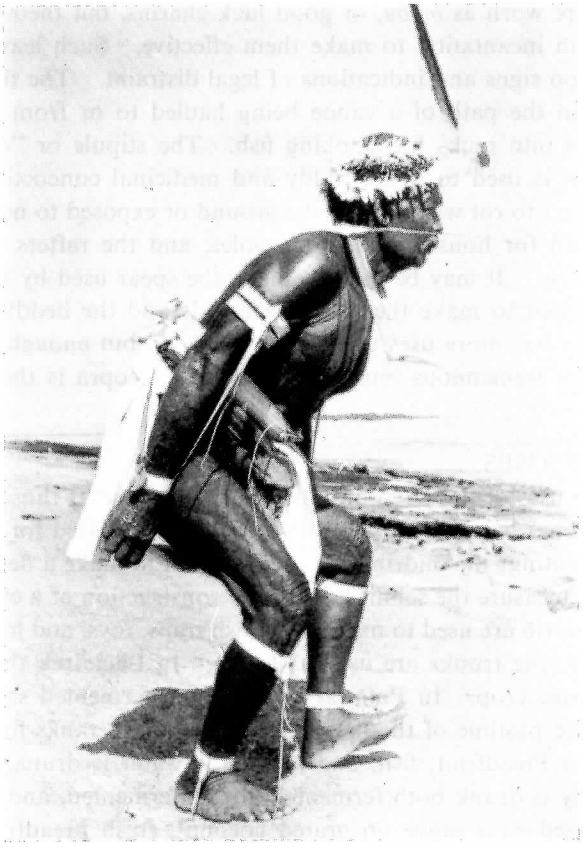

Fig. 2. Dancer wearing young coconut leaflets, called *ubwoth.* Such leaflets have high aesthetic, magical, divinatory, and juridical value.

cising their arts for their clients. Dried husks supply fiber for cordage, weaver's belts, fishing nets, slings, and other artifacts, and serve as scrubbing brushes for a bath. Dried husks are also used for fuel and as calking for the seams of canoe plants, and are burned and mixed with coral lime to form the mortar used to seal the holes in a canoe hull that have been bored to run lashing through. The leaves are slit to make skirts for prepubescent girls and are plaited together to make hats, baskets, thatching for house roofs, screens for house walls, and sitting mats for the floor. Dried leaves are used as fuel, kindling, and torches for night fishing. Leaflets are tied to a handle to make a broom. Young leaves are knotted in a major form of divination called *bwe*, which has a pervasive influence in running the affairs of both an individual or a group. The white young leaves, called *ubwoth*, are used as decorations for the dance and as sources of supernatural power during the performance of rituals of various kinds, being waved about, tied to objects, or placed around ankles, biceps, wrists, the neck, and head. *Ubwoth* are made into a belt worn by navigators as an amulet during a deep sea voyage, but they are not effective without an accompanying magical spell. Such young leaflets, either plain or painted with red spots, are worn as *hòlbu*, or good luck charms, but their power is not intrinsic, needing an incantation to make them effective. Such leaves are also very important as taboo signs and indications of legal distraint. The thick ribs are laid down crosswise in the path of a canoe being hauled to or from the sea. Green midribs are made into racks for smoking fish. The stipule or "cloth" about the base of the leaves is used to strain toddy and medicinal concoctions. The wood of the tree is subject to rot when put in the ground or exposed to moisture but when kept dry it is used for house posts, ridge poles, and the rafters forming the top structure of a house. It may be used to make the spear used by the *tolo*, or wave magician. It is used to make the round laze rods and the heddle rods of looms. The coconut palm has more uses than those indicated but enough have been mentioned to show its tremendous importance. (Today, copra is the chief source of cash income.)

COMPARATIVE USES

In **Ifaluk** the uses of the palm are essentially the same as those for Ulithi, with some additional ones being reported: the dried husks are used for napkins to wipe the fingers while eating; the midrib of the leaf is used to make a flexible ruler which in turn is used to measure the sennit lines in the construction of a canoe; the slender portions of the midrib are used to make small fish traps, toys, and makeshift bodkins or eyeless needles; the trunks are used as levers. In **Lamotrek** the coconut is the most important tree crop. In **Puluwat** drinking the fermented sap of the inflorescence is a favorite pastime of the men. In **Truk** the nut ranks fourth in the total food supply (after breadfruit, fish, and taro); the water is drunk and the meat is eaten; palm toddy is drunk both fermented and unfermented, and the sweet liquid is occasionally used as a sauce on grated coconut, fresh breadfruit, and roasted breadfruit; the leaves are plaited into coconut mats, wall mats, baskets of many kinds, and fans; the husk fibers are used infrequently for cordage; sennit is used to

make baskets, weaving belts, tree climbing bandages, the core of knuckle dusters, reef shoes, and turtle nets; sweeps for driving schools of fish and torches for night fishing are made of the leaves, as are the coverings for the earthen floors of houses; the shell of the nut is used to make flasks, one-piece fishhooks, beads for men's and women's belts, women's headbands, necklaces, pendants, men's headbands, and earrings; the wood is used to make plain spears, some barbed spears, and the shafts of stingray spears and composite spears; the oil is the basic ingredient of most perfumes and is used on the hair and body; ashes from the spathe are mixed with lime to make a cement-like caulking compound; needles are made from the midrib of a leaflet. In **Namoluk** the uses of the palm are essentially those found in Ulithi. In **Ponape** there are 14 native varieties; the young petioles of a red variety (*ni-weyta*) are used in the treatment of gonorrhea, and the bark from the root of this variety is used in curing dysentery; juice from the exocarp of a young fruit is used in the treatment of yaws; grated coconut meat is one of the ingredients employed in the cure of rheumatism and dysentery; the meat also goes into a mixture to treat "disease of vomit blood"; the rootlets of a red variety go into a concoction to treat a children's disease called *ki.l*; young roots are generally used for healing wounds; petioles of young leaves are applied to infections of the eye; palm wine is made from the sap that seeps out of cut blossoms; the other uses of the tree are numerous and resemble those found on other islands. In **Mokil** the coconut palm is the most abundant and useful tree, all parts of the plant being used.

ARACEAE (Arum Family)

Alocasia macrorrhiza (L.) Schott (=Sweet) *föle*

Mogmog I., Lessa Nos. 35–39, 1947, sight records. Five local cultivars are: 35. *molui*, 36. *filel Iarepik*, 37. *paielai*, 38. *lòi*, and 39. *filel epsech.*

VERNACULAR TERMS

English "elephant's ear," "false giant taro"; Palau *pise* (Fosberg 25772); Ifaluk *filē*; Lamotrek *fille*; Satawal *filĕ*; Puluwat *fine*; Namonuito *oht*; Murilo *oht*; Nomwin *ka* (Fosberg 24590), *oht*; Truk *kä*; *pwerik*; Namoluk *kä*; Ant *keh*; Ponape *ohd, oht, öth*; Mokil *wut*; Pingelap *wut* (edible variety), *sehbuken* (poisonous variety); Kusaie *onak* (Fosberg 26525). (Note that in moving eastward, *föle* cognates are often replaced by *oht* cognates, the latter appearing to be cognates of Ulithian *iòth*, the more westerly term for *Colocasia esculenta.*)

USES IN ULITHI

This tuberous-root herb has a large "trunk" and huge leaves and mostly grows wild but is sometimes cultivated. Its starchy trunk is the portion eaten and it grows above ground. This is the least valued of the three arums eaten on the atoll. (Its thiamine value is good.) The leaves are sometimes used as umbrellas. A young plant, stripped of all but two leaves that are painted on the upper side with red crosses, is used by the public fish magician as a safeguard against any possible sorcery against his work, but an incantation must be performed over the plant to

render it effective.

COMPARATIVE USES

In **Fais** this is one of the few places where the aroid is planted for food. In **Ifaluk** it is eaten much less than the other two arums, even though easier to grow. In **Truk** it is not particularly favored as a food. In **Namoluk** the plant is a famine food; several of its parts are used medicinally; the leaves are occasionally used as containers in food preparation and as impromptu umbrellas; the flowers sometimes find their way into leis. In **Ponape** the corm is baked or boiled and is the most common substitute for fresh breadfruit and yams, there being eight edible varieties and one poisonous one; this plant is used in healing large wounds.

Colocasia esculenta (L.) Schott *iòth*

Caladium colocasia W. F. Wight ex Safford

Caladium esculenta (L.) Vent.

Mogmog I., Lessa Nos. 44 and 45, 1947 (Bish. No. 102105); det. M. Neal. Two local cultivars are: 44. *iòth cha* (red stemmed taro) and 45. *iòth bwech* (white stemmed taro).

VERNACULAR TERMS

English "(true) taro"; Sonsorol *wot*; Woleai *uot*; Ifaluk *wot*; Lamotrek *uot*; Satawal *wot omalu*; Puluwat *woot*; Truk *ot*; Namoluk *oat*; Ant *oht*; Ponape *sawa, sawah*; Mokil *chawa, jaua*; Pingelap *sawa*; Kusaie *katak* (Fosberg 26526).

USES IN ULITHI

This domestic plant forms one of the major food staples of the atoll. It is grown by women in the sacred swamp gardens, which are surrounded with taboos. Its tubers are baked or boiled; its young leaves are edible when cooked. (Taro is an excellent source of calories, and although the protein, fat, calcium, phosphorous, iron, and thiamine contents are relatively low, there is a sufficiency of these if taro is eaten in large amounts. But there is little or no carotene and only small amounts of ascorbic acid and riboflavin.)

COMPARATIVE USES

In **Ifaluk** although highly esteemed and a major food crop, it is not preferred over *Cyrtosperma chamissonis* to any such extent as on high islands; the young leaves are cooked for greens. In **Satawal** the corms are used as food. In **Puluwat** it is preferred over *Cyrtosperma chamissonis* but less extensively cultivated. In **Truk** it is the most popular food of the arums. In **Namoluk** the corm is cooked; the flowers are made into leis; the leaves are used in medicine. In **Ponape** at least 17 varieties have been recorded, being distinguished by whether they grow in wet or dry places, and whether they are cultivated or wild or both, as well as by morphological characteristics; taro is far less important here than on atolls, ranking sixth in order of preference and use among the starchy foods; the corms are baked or boiled and eaten as a substitute for breadfruit and yams; the leaves are sometimes cooked. In **Mokil** taro is the second crop in importance in the wet gardens, and although it is considered tastier than *Cyrtosperma chamissonis* it is a luxury crop

and not a main source of food.

Cyrtosperma chamissonis (Schott) Merr. *bwolokh*

C. edule Schott

Mogmog I., Lessa Nos. 40–43, 1947 (Bish. Nos. 102153, 102150, 102152, 10251); det. M. Neal. Four local cultivars are: 40. *bwolokh mai*, 41. *lukheliòng*, 42. *pawech*, and 43. *bwolokh chòl*.

VERNACULAR TERMS

English "true giant taro"; Sonsorol *pula*; Woleai *bwulog*; Ifaluk *pulax*; Lamotrek *bulòkh*; Satawal *pulá*; Puluwat *pwula*; Truk *pula* (Fosberg 24481), *puna*; Namoluk *pula*; Ant *fulah*; Ponape *muahng, mwäng*; Mokil *muen, mwäng*; Pingelap *muiăng*; Kusaie *bashak* (Fosberg 26581).

USES IN ULITHI

A large kind of "taro" whose corm is eaten more often than *Colocasia esculenta* even though not as prized; it is rivalled only by breadfruit as perhaps the second most common foodstuff in the atoll. (It is a good source of carbohydrates and calcium, although the latter is not well utilized by the body because it is in the form of calcium oxalate. It contains appreciable amounts of riboflavin and niacin, and some thiamine.) The plant is used as an amulet.

COMPARATIVE USES

In **Ifaluk** there are twelve named varieties, the plant being in the women's sphere, and only women are experts in it, growing it in artificial pits in larger quantities than the other arums. In **Puluwat** it is less relished but more cultivated than true taro. In **Lamotrek** it is by far the most plentiful and important root crop in the island, being cultivated in the interior swamp. In **Satawal** it is planted in deep pits and is not abundant. In **Truk** it is less popular as a food than is true taro. In **Namoluk** the plant has certain advantages over true taro, making it a more favored crop; its leaves, stems, and corms are used in medicine; its leaves are used to wrap food; other parts of the plant are used as fertilizer in the taro swamp fields. In **Ant** this is a very important starch plant; four varieties are recognized. In **Ponape** 29 varieties have been recorded, being planted especially in fresh water marshes; the corms of the plant are generally baked among hot stones or boiled; the petioles are sometimes eaten; the plant is used primarily during the fall and spring lean periods in place of yams and breadfruit but it has no season and is often allowed to grow for several years before being harvested. In **Mokil** it is grown for its root stock, which may weigh as much as 50 pounds; it is prepared for eating by being boiled or baked, or ground with pandanus, arrowroot, coconut meat, or molasses before cooking; it is by far the most important crop of the wet gardens and appears in some form in most meals. In **Pingelap** this is the most important food crop.

COMMELINACEAE (Spider Wort Family)

Rhoeo spathacea (Sw.) Stearn (no vernacular name)

R. discolor (L'Héritier) Hance

Tradescantia discolor L'Héritier

T. spathacea Sw.

Mogmog I., Lessa No. 96, 1947 (Bish. No. 109807); det. M. Neal. Said to have been introduced by the Japanese, although some say it was introduced during World War II by U.S. Navy personnel.

VERNACULAR TERMS

English "oyster plant," "Moses-in-the-cradle," "Moses-in-the-boat."

USES IN ULITHI

A rosette-forming succulent plant used ornamentally.

COMPARATIVE USES

In **Fais** it probably persists from cultivation as an ornamental. In **Truk** it is said to have been introduced by the Japanese.

AMARYLLIDACEAE (Amaryllis Family)

Crinum asiaticum L. *hiop*

Mogmog I., Lessa No. 86, 1947; det. M. Neal tentatively as *Hymenocallis littoralis* Jacq. due to lack of the flower in the specimen, but subsequent examination in the field, in 1948, of the plant called *hiop* and that called *mochingel spaiòl* (see next species below) caused me to redetermine that the specimen in the herbarium is actually *C. asiaticum*. It should be noted that in his report for the U.S. Commercial Company, E. Y. Hosaka states that he saw *C. asiaticum* on Ulithi in 1946.

VERNACULAR TERMS

English "grand crinum," "crinum"; Fais *giab*; Woleai *giop*; Ifaluk *giobwutet, giop* (according to a notation on a specimen given to the Bishop Museum herbarium by Abbott and Bates, who point out that *giop* is a general term for lilies; det. by M. Neal); Namonuito *kiup*; Namoluk *kiop, pullai* (both words used also for *Hymenocallis littoralis*; det. by F. R. Fosberg for M. Marshall); Ant *kiup*; Mokil *kiup* (for *Crinum* sp.); Pingelap *kiĕp*.

USES IN ULITHI

A bulbous herb used medicinally and as an amulet. As an amulet the whole plant is worn around the neck to counteract possible sorcery against the wearer.

COMPARATIVE USES

In **Fais** the plant is used medicinally. In **Ifaluk** it is used only for leis and ear ornaments. In **Namoluk** the flowers are used for leis, the leaves for wrapping food before cooking, the "skin" of the main trunk for putting in trolling lines for tuna and game fish; various parts are used medicinally.

Hymenocallis littoralis (Jacq.) Salis. *mochingel spaiòl*

Pancratium littorale Jacq.

Mogmog I., Lessa No. 102, 1947 (Bish. No. 101869); det. M. Neal.

VERNACULAR TERMS

English "spider lily"; Sonsorol *'ki:op*; Yap *giup*; Fais *ropig*; Ifaluk *gióp*;

Satawal *lirio*; Puluwat *kiyopw, liiŕiyo*; Truk *sip* (Fosberg 24639); Namoluk *kiop, pullai*; Ponape *kiop, kiup*. Although this plant everywhere is often confused with *Crinum asiaticum*, even by Carolinians who call both species *kiop* or some cognate thereof, Ulithians call it "Spanish *moching*," thereby showing recognition of the difference and also implying recency of introduction.

USES IN ULITHI

A bulbous plant valued for its flowers.

COMPARATIVE USES

In **Fais** the flowers are used to make leis. In **Ifaluk** the flowers are prized for their form, color, and fragrance. In **Puluwat** the flowers are commonly worn in leis. In **Ponape** the leaves are used in the treatment of rheumatism and centipede bites; its roots go into a mixture to treat a black magic disease called *kaw*.

DIOSCOREACEAE (Yam Family)

Dioscorea bulbifera L. ? *palai*

Mogmog I., Lessa No. 66, 1947; det. by M. Neal as *Dioscorea* sp., but on the basis of determinations of plants with cognate vernacular names on some other Caroline Islands (see below) this specimen is here tentatively determined by me to be *D. bulbifera* L.

VERNACULAR TERMS

English "wild yam," "bitter yam," "common yam," "air potato"; Satawal *pelai*; Truk *äpüereka*; Namoluk *pereka*; Satawan *pureka* or *puruku*; Ponape *uh-n palai, paläi, palai*; Kusaie *bula* (Fosberg 26568).

USES IN ULITHI

A wild tuberous vine used medicinally.

COMPARATIVE USES

In **Truk** it is eaten in famines only. In **Namoluk** the bitter aerial tubers are edible if cooked several times, and they are traditionally served as a famine food. In **Ponape** the lengthily processed and twice cooked roots of the plant, whose two varieties grow wild, are used principally as a diet (not a medicine) for invalids, although a few individuals like to eat them occasionally before and after meals; wild pigs eat both the roots and the vine seeds but domesticated pigs do not like either.

Dioscorea sp. *iär*

Mogmog I., Lessa No. 62, 1947; det. M. Neal.

USES IN ULITHI

An uncultivated vine whose elongated fruits are eaten occasionally.

TACCACEAE (Tacca Family)

Tacca leontopetaloides (L.) Kotze. *mògmòg*

T. pinnatifida Forst.

Mogmog I., Lessa No. 48, 1947; det. M. Neal.

VERNACULAR TERMS

English "arrowroot"; Sonsorol *mogomogo*; Palau *chubochub*; Yap *chabchab, chob chob* (Fosberg 25550); Woleai *mogmog*; Ifaluk *mogmog*; Satawal *mogumog* or *mokumok*; Puluwat *mwakomwak*; Namonuito *mukmuk*; Murilo *mukmuk*; Nomwin *mok(u)mok, mukmuk*; Truk *mokomok*; Namoluk *mökumök*; Ant *mokomok*; Ponape *mokimok, mokmok, mwekimwek*; Mokil *mokomok*; Pingelap *mùgamuk*.

USES IN ULITHI

A wild herb whose poisonous tubers are pounded and washed to make an edible flour. (It is very high in readily digested carbohydrate, with small amounts of phosphorous and iron.) Various parts of the plant are used medicinally.

COMPARATIVE USES

In **Yap** the tuber is made into a starch called "melkin" (America) flour, used for making bread, this having been learned from the Chamorros, the plant having previously been ignored. In **Ifaluk** arrowroot grows wild and the starch is rarely used, even though the people know how to make it. In **Lamotrek** arrowroot is cultivated but is of little importance. In **Puluwat** the extract is boiled with coconut water. In **Nomwin** a starch is made from the tubers; the plant is usually wild but is sometimes deliberately planted. In **Truk** starch made from the rhizomes is boiled or baked and at one time was a fairly important item of the diet. In **Ponape** the plant is of very minor importance, even though it is well liked; most of it grows wild but some is cultivated; it must be grated, squeezed, soaked, and allowed to settle before it can be cooked; it is a substitute for yams and breadfruit. In **Mokil** the tubers are an important source of food and a starch made from the tubers is used in various food mixtures. In **Pingelap** the plant is both cultivated and spontaneous; the stem fibers are used in plaiting hats; the tubers are an important source of starchy food.

MUSACEAE (Banana Family)

Musa spp. *üch*

Mogmog I., Lessa Nos. 111–117, 129, 1947; sight records. Eight local kinds of banana, some of which are *M. paradisiaca* L. and others *M. paradisiaca* ssp. *sapientum* (L.) O. Kotze., but none of which are matched with their vernacular names, are: 111. *mälukh*, 112. *sakar*, 113. *humoi*, 114. *thawer*, 115. *üchol Palloi*; 116. *bwungöch*, 117. *tukhpia*, and 129. *iourlim*.

VERNACULAR TERMS

English "banana"; Sonsorol *wic*; Woleai *uich*; Ifaluk *wir*; Puluwat *wuur*; Namonuito *ul* ; Murilo *ul*; Nomwin *ul*; Truk *uch*; Namoluk *uuch*; Ponape *uht, üt,*

ut (for *M. paradisiaca* L.); Mokil *wus* (for *M. paradisiaca*); Pingelap *wis* (for *M. paradisiaca* L.).

USES IN ULITHI

All bananas may be eaten raw or cooked. (They are a good source of calories and a readily digested carbohydrate.) They have medicinal uses. They are of great importance in making textiles, the fibers being scraped from the trunks, the best variety being *malukh*. The finely woven male loincloth is made from such fibers, but the women's wraparound is interwoven on the loom with fibers made from sea hibiscus bast. Men's loincloths have traditionally constituted one of the major kinds of tribute to the chiefs of Gagil district in Yap, and are given as gifts to chiefs on Fais and The Woleai, as well as within the atoll itself. Such loincloths are placed as offerings in the "spirit houses" of Ulithi's two major lineage ghosts, Iongolap and Marespa. Formerly, banana fiber was probably employed in the making of capes and ponchos, now no longer worn for many decades.

COMPARATIVE USES

In **Ifaluk** bananas are eaten only occasionally, even though the plant grows well and some of the varieties are of excellent quality; the fiber is used in the weaving of loincloths. In **Lamotrek** at least four species are present and are as significant in the diet as sweet potatoes and *Alocasia*, being eaten raw by children when ripe and, while still green, cooked for general consumption; the fiber is of major importance for weaving. In **Truk** certain varieties are rated as most plentiful, most tasty, best for cooking purposes, and best for weaving; the fiber is mixed with hibiscus fiber in weaving the better women's wraparound skirts; the unmixed fiber is used in weaving the men's loincloths and sometimes the poncho-like cloak worn by men; the fibers are tied in tufts on warps to make the highly valued men's headband. In **Namoluk** varieties of the banana are used for food, both for humans and domestic animals; the leaves are used in earth ovens; the fiber is used in leis and, formerly, for wraparound clothing woven on hand looms; the leaves are also used as ready-made plates, table mats, food wrappers, and umbrellas; various parts are employed medicinally. In **Ponape** 41 native varieties of bananas and plantains are recorded, most being planted while others grow wild; almost all are edible, being eaten raw, baked, roasted, boiled, or fried, depending on variety, but a fruitless variety is used for its fibers; the leaves of some are used in the treatment of bruises and stomachaches. In **Mokil** there are seven "cooking" varieties of banana and seven that are eaten raw; they are used in a number of food combinations; the banana is the premier medicinal plant.

ZINGIBERACEAE (Ginger Family)

Alpinia purpurata (Vieill.) K. Schum. *chiwiwh cha*

Guillainia purpurata Vieill.

Mogmog I., Lessa No. 47, 1948; sight record.

VERNACULAR TERMS

English "red ginger."

USES IN ULITHI

Apparently this erect herb is cultivated only for its attractive red inflorescence and, to a much lesser extent, its small white flowers.

Curcuma domestica Valet. *höchöl*

C. longa of Safford

Mogmog I., Lessa No. 49, 1947; det. M. Neal.

VERNACULAR TERMS

English "turmeric"; Yap *guchol*; Fais *guchol* (for *Curcuma* sp.); Ifaluk *angorlk, gerel, geval, yangoshik*; Truk *äfän*; Ponape *ong, oahng.*

USES IN ULITHI

An erect herb whose roots are used to make turmeric employed as a dye and a cosmetic "talcum powder." The powder is valuable as an offering to ancestral ghosts and as tribute to Yapese chiefs and gifts to Ulithian and other chiefs. The fruit is one of the eight fruits placed in the "flying fish bundle" offered to the spirits by the public fish magician in the course of his annual ritual to ensure an abundance of fish for the coming year. Medicinally, turmeric is applied to a rash or "small boils" called *ruph*, caused by injuries or taboo violation, and the root is mixed with sacred basil to treat diarrhea in babies. The leaves and roots are fashioned into a neckpiece and worn as a *hölbu*, or good luck charm. The plant is fashioned by men into head wreaths or neckpieces to make a kind of love charm of the *ielsöl* category in order to attract women. The powder is taboo as a cosmetic to the public fish magician during his apprenticeship and for several months after the performance of his annual fish ritual. As an amulet of the *bwälebwöl* class an entire plant is worn around the neck by a navigator to protect him against either known or strongly suspected sorcery, but its real efficacy is due to an accompanying incantation.

COMPARATIVE USES

In **Yap** turmeric is used to powder the body in order to beautify it and to repel insects. In **Fais** the plant is used to make medicine and garlands. In **Ifaluk** the herb is put in medicine prepared ritually, blessed by the gods, and drunk as a preventative; it is also considered healthful in drinking water for babies; yellow pigment (made from the roots) is used as a skin paint; the crushed leaves are used as a perfume by rubbing on the skin, hanging in the earlobes, or worn wherever they will hang; it is one of the plants beloved of the gods and it grows in the sky and on earth. In **Truk** the yellow powder made from the roots is widely used as a skin lubricant and cosmetic, and as a dye for woven fabrics; according to folklore it was formerly cultivated for its food starch. In **Ponape** the roots of one variety (*ong-eh-tik*) are used for food purposes and in curing gonorrhea, and the roots of the others (*luh-aroo, ongolap, ongkol,* and *kisen yong*) are used in flavoring soups; it is used for dyes.

Hedychium coronarium Koenig *chiwiwh bwech*

Mogmog I., Lessa No. 46, 1948; sight record.

VERNACULAR TERMS

English "white ginger," "common ginger lily," "butterfly lily"; Woleai *telan*; Ifaluk *trewiwi*; Puluwat *tolon*; Namonuito *zinzer* (English corruption); Truk *fitun, tinun en won* (Fosberg 26024); Namoluk *sinser* (English corruption); Ponape *zinzer* (English corruption).

USES IN ULITHI

An erect herb cultivated for its sweetly fragrant flowers, which are used in leis.

COMPARATIVE USES

In **Ifaluk** the flowers are among those most frequently used for leis. In **Satawal** the flowers are used in leis. In **Namoluk** the flowers are used in leis.

PIPERACEAE (Pepper Family)

Piper betle L. ? *habiy*

Not seen by me, the plant not having been present in the atoll in 1947–1949, but a highly reliable informant formerly used by me in the field reported to me in 1977 that it was present in small numbers in 1960 and 1961, during my third and fourth field trips. It was sight recorded in 1909 by Paul Hambruch and F. E. Hellwig, members of the Hamburg Südsee-Expedition. (The spelling of *habiy* is that of my informant, writing in 1977. See *Clerodendrum inerme*.)

VERNACULAR TERMS

English "betel pepper"; Yap *gabui*; Fais *habui*; Ifaluk *gabwī*; Ponape *tuh*.

USES IN ULITHI

A scandent vine with woody stems whose leaves are used to chew with the areca nut. The custom is not widely practiced and is acquired as the result of the long sojourns on Yap made by many men from the atoll.

COMPARATIVE USES

In **Yap** the leaf is used with the betel (areca) nut; the practice is very extensive (personal observation). In **Ifaluk** the species is said to be the right kind to chew with the betel nut, but chewing the wad is not a local custom; a light hoop of the wood is used to form the rim of the flaring conical hat sometimes used by men while fishing.

MORACEAE (Mulberry Family)

Artocarpus altilis (Park.) Fosb. *mäi*

A. communis Forst.

A. incisus (Thunb.) L. f.

Mogmog and other islands, Lessa Nos. 140–145, 147–151, 1947; sight records. The eight seedless or [*mäi*] *mafoi* varieties are: 140. *mä soalap*, 141. *mä chol*, 142.

mäl Losiep, 143. *mäl gochuke*, 144. *pemathòl*, 145. *mäl paieng*, 150. *mäi Lam* and 151. *mäl metalim*. The seedless or [*mäi*] *mämòl* varieties are: 147. *pulai*, 148. *mä khurukhur*, and 149. *ma khoiöng*.

VERNACULAR TERMS

English "breadfruit tree"; Sonsorol *mäe*; Palau *madu* (Fosberg 32110); Yap *thau*; Woleai *mai*; Ifaluk *mai*; Lamotrek *mai*; Satawal *mai*; Puluwat *mááy*; Namonuito *mai*; Truk *mai*; Namoluk *mei*; Ant *mey*; Ponape *mahi, mai, maï*; Mokil *mai*; Pingelap *mai*.

USES IN ULITHI

The fruit of the tree constitutes one of the chief sources of food and is cooked by baking, frying, boiling, or roasting. (It furnishes carbohydrate, protein, calcium, phosphorous, iron, thiamine, riboflavin, niacin, and ascorbic acid in significant amounts.) It is one of the kinds of plant foods presented annually to certain chiefs as "first fruits." The pulp may be made into a paste, *mar*, that is buried in the ground to preserve it when the fruit is out of season or there is a food emergency. *Mar* is taboo to the public fish magician during his apprenticeship and for several months after the performance of his ritual. The fruit is taboo to all magicians for the duration of the time that they are exercising their art for the benefit of their clients. The wood is very useful, being employed to make various canoe parts: hulls, endpieces, outrigger floats, portions of the weather platform, stays and cross bars connecting the float to the booms, paddles, and rudders. It is also used for the walls of houses, containers, boxes, tackle boxes for fishing gear, and so on. The leaves are used to cover pots during cooking and to wrap *mar*. The flowers

Fig. 3. Breadfruit bunched for ritualistic distribution. Breadfruit ranks high in the diet.

are used to make a "mosquito coil."

COMPARATIVE USES

In **Palau** the fruit is eaten. In **Ifaluk** the fruit is the staple food and is baked or boiled, the pulp being made into a paste and buried to insure a food supply in the event of disaster; the wood is used to make the planks sewn together to form the hulls of canoes; the gum of the tree is applied over the coconut husk used to calk the seams of canoes. In **Lamotrek** breadfruit is the second most important tree crop, and the wood and sap of the tree are of importance in building canoes and houses. In **Puluwat** the fruit is the most favored of the staple foods, being cooked in earth ovens, roasted, or boiled, and some of the surpluses are buried in pits where they are allowed to ferment to a relatively stable condition; the hull of small single outrigger paddling canoes and paddling-sailing canoes is carved out of a single log; full-fledged sailing canoes have their keel piece carved out of a single piece of wood and the planks forming the sides of the hull are carved from the same tree or another one; a "glue" made of breadfruit sap makes the hull joints watertight; the outrigger float, the bailers, and other parts of canoes are made from the wood. In **Truk** the fruit is by all odds the chief source of food and is often fermented and preserved in pits, being steamed or cooked in the earth oven; the fruit is used as fish bait; the larger and better category of buildings is made from the timber; the wood is used to make the cloth beam and the warp beam of the loom, sleeping platforms, storage chests, receptacles for spirit offerings, the hulls of small fishing canoes (single logs), large racing canoes, and war canoes, and bailers, small bowls, food pounders, and food pounding blocks; the smoke and soot of the boiled sap are used to make the pigment used in tattooing. In **Namoluk** the seeds of the seeded types are eaten; the leaves are used as plates and wrappers for food to be cooked; lumber for heavy construction, canoe hulls, and many important cooking utensils; dead branches are gathered for firewood; the sap is used as a calk for canoes; nearly every part of the tree is employed in herbal medicine. In **Ant** breadfruit is a very important food plant. In **Ponape** there are 78 native varieties, two of which have edible seeds; fresh breadfruit, with yams, is one of the two primary foods in the subsistence economy; pit breadfruit is a reserve against times of typhoons and possible famines; the bark of the roots is employed in relieving earaches. In **Mokil** the ripe breadfruit is baked, boiled, fried in strips, or used in various combination dishes; it may be mixed with coconut milk and stored in pits lined with leaves, where it remains edible for years; the tree is the most important source of lumber in the atoll, being used in making canoes, whaleboats, and paddles, and the construction of houses.

Ficus tinctoria Forster f. *howel*

F. tinctoria var. *neoebudarum* (Summerh.) Fosb.

Mogmog I., Lessa No. 13, 1947; det. M. Neal originally as *F. philippinensis*, but this is a synonym for *F. virgata* Reinw. ex Bl. var. *philippinensis* (Miq.) Corner. Possibly the specimen is *F. tinctoria* var. *neoebudarum* (Summerh.) Fosb., a taxonym applied by F. R. Fosberg to three specimens collected by him in 1946 on Fassarai and Mogmog islets; but E. J. H. Corner has raised some questions about the validity

of this variety, at least on Guam. The Bishop Museum herbarium has many specimens of *F. tinctoria* Forst. f. in its collections, and many specimens on deposit elsewhere bear this same species identification. In the lists below no attempt has been made to distinguish variety; all vernacular terms and the uses to which plants are put refer to the *F. tinctoria* species.

VERNACULAR TERMS

English "dyer's fig"; Yap *wacha, wocha*; Fais *gawal*; Woleai *gùwan*; Ifaluk *gawann, hawan*; Satawal *awal, awan*; Puluwat *yawan*; Namonuito *mok*; Nomwin *awan* (Fosberg 24570); Truk *auwön, avan* (Fosberg 24661); Ant *ahwahn*; Ponape *neen, nin* (Fosberg 26240); Kusaie *shra* (Fosberg 26540).

USES IN ULITHI

A tree whose wood is used to make outrigger connectives and to build fires. The bark is used to make "feather" lures for fishing. The fruit is cooked and eaten.

COMPARATIVE USES

In **Yap** the fruit is eaten. In **Fais** the fruit is eaten. In **Ifaluk** the wood is used for small rafters in houses; the inner bark of the roots for fish lures. In **Truk** the wood is used to make fire ploughs.

Ficus virens Ait. *hulio*

F. carolinensis Warb.

F. prolixa Forst. f. var. *carolinensis* (Warb.) Fosb.

Mogmog I., Lessa No. 14, 1947; det. M. Neal as *F. carolinensis* Warb., a synonym in the revision of the genus by E. J. H. Corner.

VERNACULAR TERMS

English "banyan"; Yap *aou*; Woleai *giliau*; Ifaluk *giliao*; Puluwat *yaawo, yewan*; Truk *aaw, aü*; Namoluk *kiliau*; Ant *kilee-ant*; Ponape *aiau, ayau.*

USES IN ULITHI

A tree used as firewood and for starting fires by placing a piece of the wood in a bamboo container and igniting it with a spark from flint. Its aerial roots are used for lashing if nothing better is available and sometimes the thick ones are used for canoe masts and as rollers for hauling loads. The leaves, when mixed with *Asplenium nidus*, are used as a medicine to treat *mai*, a serious illness believed to be caused by a tree spirit.

COMPARATIVE USES

In **Ifaluk** the aerial roots are sometimes used for preliminary lashing on a canoe before the permanent lashing of sennit is put on; an aerial root may be used as a mast for a canoe. In **Puluwat** the aerial roots are sometimes used in seine fishing. In **Truk** a triangular piece of bark symbolizing the female genitalia is used to prevent yaws in infants. In **Namoluk** there are no major uses for this tree, although its aerial root bark is an ingredient in herbal medicine. In **Ponape** the inner bark and branch roots are utilized in the treatment of tetanus and as a hemostatic in menstruation.

URTICACEAE (Nettle Family)

Laportea ruderalis (Forst. f.) W. L. Chew *hafalfal*

Fleurya ruderalis (Forst. f.) Gaud.

Urtica ruderalis Forst. f.

Mogmog I., Lessa No. 94, 1947; det. M. Neal.

VERNACULAR TERMS

Sonsorol *hafarefare*; Woleai *gùfalfal, havalifal*; Eauripik *hafalifal*; Ifaluk *gevaleval*; Satawal *afelefelegech*; Truk *ansifichnü, ansifitnu* (Fosberg 24647); Namoluk *an ukech nu*; Ant *ani-gusgus*; Ponape *sau mwal* (Fosberg 26376); Mokil *nin-kotokot*; Pingelap *ne-kirrir-ir*.

USES IN ULITHI

An herb used medicinally.

COMPARATIVE USES

In **Sonsorol** the whole plant is pounded, mixed with coconut oil, and applied to boils to relieve pain and make the boils go away; the plant may be pounded, wrapped in coconut "cloth," dipped in hot water, and applied to the body to relieve pain. In **Woleai** it is used medicinally. In **Eauripik** it is used medicinally. In **Ifaluk** the plant is used to treat swollen legs, the plant being pounded with a stone and the juice drunk, the crushed herb also being wrapped in coconut "cloth," dipped in water, and rubbed on the legs. In **Namoluk** the entire plant is used medicinally.

Pilea microphylla (L.) Liebm. (no vernacular name)

P. serpyllacea (HBK.) Liebm.

Parietaria microphylla L.

Mogmog I., Lessa No. 68, 1947; det. M. Neal. Said to have been introduced by the U.S. Navy.

USES IN ULITHI

A small fleshy fernlike herb for which there are no apparent uses.

COMPARATIVE USES

In **Ifaluk**, where the plant may have been accidentally introduced in 1947 by Burrows and Spiro and spread extensively by the natives, it is not used, except as a ground cover.

Pipturus argenteus (Forst. f.) Wedd. *iourama*

Urtica argenteus Forst. f.

Mogmog I., Lessa No. 2, 1947; det. M. Neal.

VERNACULAR TERMS

Palau *olulgrasus* (Fosberg 25796); Woleai *yaroma*; Ifaluk *aroma*; Satawal *aróma*; Nomwin *aroma* (Fosberg 24566, 24567); Namoluk *aroma*; Ant *oromah*; Mokil *ormuh*; Pingelap *oroma*; Kusaie *alko* (Fosberg 26558).

USES IN ULITHI

A small tree used for medicine, rollers for hauling, firewood, and tying fish-

hooks. The wood may not be used by the public fish magician, the public weather magician, the palm leaf diviner, and the navigator to make a fire.

COMPARATIVE USES

In **Ifaluk** the young leaves from the tips of the branches make edible greens if boiled, mashed, and mixed with toddy and coconut cream; the wood is used for fishhooks, the strong bark for leaders for fishhooks; the leaves and bark are used for medicine, e.g., to bring on birth to mothers and to treat constipation. In **Nomwin** the inner bark is used for fish lines. In **Namoluk** the wood is used in house construction; the bark is used for fish lines and for feeding pigs; medicines. In **Pingelap** the bast is used for making fish nets.

AMARANTHACEAE (Amaranth Family)

Achyranthes aspera L. *kòi*

A. indica (L.) Mill.

Mogmog I., Lessa No. 85, 1947 (Bish. No. 128369); det. M. Neal.

VERNACULAR TERMS

English "chafflower"; Woleai *gugu* (*A. aspera*?); Ifaluk *gogo*; Satawal *eeg'-gohur*; Puluwat *likkakééké*; Nomwin *liko* (Fosberg 24575); Truk *nikoke* (Fosberg 24638); Namoluk *uoko*; Mokil *suga-dugodok*.

USES IN ULITHI

A shrubby herb used medicinally. Also, the tips of the flowers are combined with other ingredients to make one kind of *legabwöl*, a class of amulets worn to ward off possible disease.

COMPARATIVE USES

In **Ifaluk** the herb is applied to cuts and bruises. In **Puluwat** the leaves are used for medicine. In **Namoluk** it has medicinal uses.

Amaranthus hybridus L. (no vernacular name)

Mogmog I., Lessa No. 26, 1947; det. M. Neal. Said to have been imported from Yap by the Japanese.

VERNACULAR TERMS

English "prince's feather" ?

USES IN ULITHI

The purple leaves of this tall ornamental herb are used for leis.

NYCTAGINACEAE (Four o'clock Family)

Mirabilis jalapa L. *warpicha*

Mogmog I., Lessa No. 100, 1947; det. M. Neal.

VERNACULAR TERMS

English "four-o-clock," "marvel of Peru"; Sonsorol *fauwa clock* (English

corruption); Fais *gaelun*; Ifaluk *marepisa* (from Spanish); Satawal *flores* (Spanish word); Truk *meribisa* (from Spanish *maravilla* or "marvel"); Namoluk *aspetin woun, kulok elu* ("three-o-clock"); Mokil "four-o-clock"; Pingelap *peskulŏk*.

USES IN ULITHI

An ornamental herb cultivated for its flowers.

COMPARATIVE USES

In **Sonsorol** the plant is found abundantly in the village area (presumably grown for its flowers?). In **Fais** the flowers are used in leis. In **Ifaluk** the flowers are much used for garlands. In **Namoluk** the herb is planted next to people's houses where its flowers may be readily picked for leis; the flowers are also used medicinally. In **Mokil** it has been observed as an ornamental plant. In **Pingelap** it is commonly cultivated in the village as an ornamental.

Pisonia grandis R. Brown *mokh*

Mogmog I., Lessa No. 15, 1947; det. M. Neal, confirmed by J. F. Stemmerik, September 1963.

VERNACULAR TERMS

English "pisonia"; Sonsorol *monu*; Palau *mesbesebe* (Fosberg 25797); Woleai *mwog*; Ifaluk *moch, mog, motr*; Satawal *moek*; Puluwat *mwéék*; Namonuito *mahk*; Truk *mök*; Namoluk *mwük*; Ant *muk*; Mokil *mehs* (for *Pisonia* sp.).

USES IN ULITHI

A tree whose soft wood is used for house planks, roof poles, door jambs, rollers for hauling, and earth ovens. The leaves are used as pig food. Medicinally, its bark is used in the treatment of *bwarkhil si*, or stomach pains, believed to result from spirits, bad food, intestinal worms, or aggressive thoughts.

COMPARATIVE USES

In **Sonsorol** the young leaves are mixed with the inner skin of the trunk to make a concoction drunk as an abortifacient effective up to about the sixth or seventh month of pregnancy, and if used after that time the baby will not deliver early; the inner part of the trunk of the young tree can be pounded and drunk so that the baby will be born fast if the woman is in pain during labor. In **Ifaluk** the wood is used to make house planks and wind screens. In **Truk** the wood is used for fires. In **Namoluk** the saplings are used for fences, and dead branches make good firewood; the leaves are used to feed pigs and to make a mulch for *Colocasia esculenta*, and are used medicinally. In **Mokil** the leaves of a *Pisonia* sp. are used as a green manure in the *Cyrtosperma* swamp.

PORTULACACEAE (Purslane Family)

Portulaca oleracea L. *hokhusul spaiŏl*

Mogmog I., Lessa No. 57, 1947; det. M. Neal.

VERNACULAR TERMS

English "purslane," "wild portulaca," "pigweed"; Ifaluk *yagul*; Satawal *erkhul*;

Mokil *ubijon* (same as for *P. samoensis*). Note that Ulithian *hokhusul spaiòl* means "Spanish hokhus," thereby distinguishing it from *P. samoensis* and implying recency of introduction.

USES IN ULITHI

A fleshy herb used as food.

COMPARATIVE USES

In **Ifaluk** in emergencies the whole herb is cooked by some and eaten.

Portulaca samoensis v. Poelln. *hokhus*

P. pilosa L.

Mogmog I., Lessa No. 56, 1947; det. M. Neal.

VERNACULAR TERMS

Woleai *gobw*; Ifaluk *gop*; Satawal *op*; Truk *chiukis* (Fosberg 24629); Mokil *ubijon* (same as for *P. oleracea*).

USES IN ULITHI

An herb with a fleshy rootstock used as a food and to make soup.

COMPARATIVE USES

In **Ifaluk** the herb is important in case of famine following a typhoon; its leaves are boiled, then crushed and mixed with coconut cream.

LAURACEAE (Laurel Family)

Cassytha filiformis L. *ülöl*

Mogmog I., Lessa No. 50, 1947; det. M. Neal.

VERNACULAR TERMS

English "false dodder"; Palau *telelaull* (Fosberg 25788); Yap *buk*; Woleai *tig*; Ifaluk *elao, tig*; Satawal *tig*; Nomwin *olau*; Truk *anau, jotik*; Namoluk *uölau*; Ant *wahlee-mah*; Ponape *kohtokot-shau, kotokotojau*; Mokil *cossagos*; Pingelap *cossagos*.

USES IN ULITHI

An orange, leafless, parasitic strand vine used to feed infants. The mother may masticate the vine and transfer it directly to the baby's mouth from her own. The fruit is one of eight fruits put into the "flying fish bundle" offered to the spirits by fish magicians. The tip of the vine is used to treat filariasis contracted by breaking taboos.

COMPARATIVE USES

In **Woleai** the plant is used medicinally. In **Ifaluk** it is sometimes used for "hurt stomach," being mashed up and put into a coconut for a small baby to drink. In **Truk** it is used medicinally and in the low islands it is used as a pack in ovens. In **Namoluk** the stem is used medicinally. In **Ponape** the plant is used medicinally.

HERNANDIACEAE (Hernandia Family)

Hernandia ovigera Stickm. *hochòl*

H. labyrinthica T. Tuyama

H. ovigera L.

H. peltata Meissn. ?

H. sonora L. ?

Potangeras I., Lessa No. 33, 1947; det. M. Neal. Some use the taxon *H. sonora* L. as a synonym for *H. ovigera* Stickm., others regard it as a separate species. Some regard *H. peltata* Meissn. as a synonym for *H. ovigera* Stickm., others regard it as a synonym for the species *H. nymphaeifolia* (Presl) Kubitzki, for which they also include *H. sonora* sensu various authors, non L.

VERNACULAR TERMS

In view of the disagreement over nomenclature, the Carolinian vernacular terms that follow are divided into two categories: (a) those in which writers specifically use the taxon *H. ovigera* in reporting their specimens, and (b) those using the taxon *H. sonora.* It is apparent that some Carolinians use cognates of the same vernacular terms for both taxons, unless we are dealing with incorrect determinations of species by botanists.

(a) *H. ovigera*: Palau *dogo* (Fosberg 25782); Truk *agurang* (Fosberg 24656), *akurang* (Fosberg 24494), *akürang*.

(b) *H. sonora*: Woleai *gochol*; Ifaluk *koral*; Satawal *orang*; Namonuito *ojal*; Namoluk *akurang*; Ant *akharan*; Ponape *pingapin, pinipin*; Mokil *pingaping*; Pingelap *pingaping*.

USES IN ULITHI

A tree having medicinal uses. Its bark is used in the treatment of *silfäs*, a very painful swelling of the ankles and feet.

COMPARATIVE USES

In **Ifaluk** the wood of *H. sonora* is used for houses and canoes; the leaves and bark for medicine; the leaves for stomachache in babies and "to make baby come." In **Truk** the fruits of *H. ovigera* are combined with grated coconut and turmeric root for a woman's scalp treatment; a bent slender stick made from a limb is used to hunt small octopi; the leaves are expressed and mixed with charred hibiscus and pounded mangrove bark in the manufacture of black paint. In **Namoluk** the wood of *H. sonora* is used as firewood, and its leaves and seeds are incorporated into medical concoctions. In **Ponape** *H. sonora* has medicinal uses.

CAPPARIDACEAE (Caper Family)

Crataeva speciosa Volkens *iabwuch*

Mogmog I., Lessa No. 5, 1947; det. M. Neal.

VERNACULAR TERMS

English "cucumber tree"; Sonsorol *xalifat*; Palau *adepsum* (Fosberg 25774);

Fais *yafuch*; Woleai *yafuch*; Ifaluk *avus, avutr*; Satawal *afur*; Puluwat *yáfuur*; Murilo *afúch*; Nomwin *epuch* (Fosberg 24557); Truk *afuch* (Fosberg 26036), *afuts* (Fosberg 26036), *apuch*; Lukunor *afuch*; Ant *afoosh*; Ponape *apoot*.

USES IN ULITHI

The tree has medicinal uses. The wood is used in loom shuttles. The long green fruit is boiled and eaten but is taboo to the public fish magician. (The fruit has good ascorbic acid and phosphorous content, as well as some carbohydrate, calcium, iron, thiamine, and riboflavin.)

COMPARATIVE USES

In **Fais** the tree has medicinal uses; the fruit is eaten. In **Ifaluk** the wood is used for house posts; the fruit is eaten cooked or fresh but is not especially prized; the leaves and bark are pounded, put in a green coconut, and drunk as a medicine for itching and rash. In **Murilo** the fruit is cooked and eaten. In **Truk** the fruit is eaten in times of hunger; it is used in leis because of its fragrance; bark scrappings are mixed with turmeric and coconut to treat skin disease.

LEGUMINOSAE (Bean Family)

Canavalia cathartica Thou. *walemokh*

C. microcarpa (DC) Piper

Mogmog I., Lessa No. 64, 1947; det. originally by M. Neal as *C. obtusifolia* (Lam.) DC (actually a synonym for a different species, *C. maritima*), but later changed by her to *C. microcarpa* (DC) Piper, and finally revised by J. D. Sauer to the present *C. cathartica* Thou. (Sauer made a study of this genus and changed all *C. microcarpa* specimens in the Bishop Museum herbarium to *C. cathartica.*)

VERNACULAR TERMS

English "mauna loa" (Hawaiian word); Palau *keldelel* (Fosberg 25793); Woleai *walimog*; Ifaluk *walumach, walumag*; Satawal *walima*; Nomwin *wal* (Fosberg 24586); Truk *chòchòn, wonu, wönüka*; Namoluk *anikat*; Ant *fin-kalau*; Pingelap *nimelitop.*

COMPARATIVE USES

In **Ifaluk** the leaves are pounded up, mixed with toddy, and drunk while hot as a cough medicine. In **Nomwin** it is used as a medicine to treat stomach ailments; the flowers are made into leis. In **Namoluk** the hard seeds are strung for leis, and the leaves are used in local medicine. In **Pingelap** the plant parts are used as a medicine to aid in childbirth.

Cassia sophera L. *haeleng*

Mogmog I., Lessa No. 28, 1947; det. M. Neal.

VERNACULAR TERMS

English "edible senna."

USES IN ULITHI

A shrub used medicinally. Both the leaves (dried) and fibers are used for leis.

Vigna marina (Burm.) Merr. *holu*

V. lutea (Sw.) A. Gray

Phaseolus marina Burm.

Mogmog I., Lessa No. 52, 1947; det. M. Neal.

VERNACULAR TERMS

English "beach bean," "beach pea"; Sonsorol *houruwa*; Palau *keldelel* (Fosberg 25776); Fais *holu*; Woleai *golu, holu*; Ifaluk *golu, holu*; Satawal *ōlū*; Puluwat *wooluuw*; Namonuito *olu*; Nomwin *ulu*; Truk *wänjika, wonura* (Fosberg 24657); Namoluk *oolu*; Satawan *olu*; Ant *ohloo*; Ponape *tansilituh*; Mokil *tau-tul*; Pingelap *mimelitop, sau-tul.*

USES IN ULITHI

A creeping herb used medicinally, its leaves, buds, and branches being used to treat *los*, or "large boils" believed to result from injuries caused by a fall or blow or by violation of a taboo. Its buds are used to treat *emahos*, or injury to the penis during intercourse, probably the result of a certain prodding technique.

COMPARATIVE USES

In **Sonsorol** the leaves are pounded and spread on a sleeping mat to treat backache, the person sleeping on the leaves (some people say that eels have been found out of water on a beach rolling on these leaves and noticed that some of the eels had distinct wounds, using the leaves as a medicine). In **Fais** the leaves are used as a medicine. In **Woleai** the plant is used for medicine. In **Ifaluk** the leaf is put into a young coconut or toddy and cooked, being very sweet and used as a cough medicine. In **Namoluk** juice from the leaves is used to treat chickens suffering from eye sickness; juice from the stems is part of a medicine for women with stomach pains and a slight cough; the leaves are an ingredient in black dye. In **Ponape** the leaves are used to treat "disease of mangroves."

RUTACEAE (Rue Family)

Citrus limonia Osbeck *khurukhur lemol*

C. limon (L.) Burm. f.

Mogmog I., Lessa No. 138, 1960; sight record. Although local lemons were presented to me on Mogmog on 8 July 1960 and consumed, I did not inspect the tree from which they were taken; but one reliable informant in 1960 indirectly verified the presence of lemon trees, and still another did so in a letter received by me in 1977, saying that they grew on all the larger islands. (In his U.S. Commercial Company report, E. Y. Hosaka notes in connection with his visit to Ulithi in 1946: "Citrus sp., lemon eaten.") As in many of the Caroline Islands, the word *khurukhur* and its cognates is usually employed without qualifying terms and refers also to the orange, as well as any citrus, including the lime, tangerine, and pumelo.

VERNACULAR TERMS

English "lemon"; Sonsorol *guruguru*; Yap *gurgur marech*; Ifaluk *lomul* (English corruption); Ponape *kärer* (applied to eight varieties of citrus fruit, including

lemon), *laman* (English corruption).

USES IN ULITHI

The fruit is occasionally consumed. The wood is used to make dance sticks and adze handles. The leaves are used as a spice and to make leis and medicine.

COMPARATIVE USES

In **Ifaluk** the juice is used with pork or fish; the wood for adze handles. In **Ponape** the lemon is the most plentiful of all citrus varieties but is only occasionally cultivated, mostly growing wild; it is used with salt as flavoring for seafoods; the leaves are used in making tea.

SIMAROUBACEAE (Ailanthus Family)

Soulamea amara L. *marat*

Mogmog I., Lessa No. 131, 1947 (another specimen Falalop I., 1960); det. M. Neal.

VERNACULAR TERMS

Woleai *marat*; Ifaluk *merat*; Puluwat *meŕah*; Truk *märäs*; Namoluk *märas*; Satawan *maras*; Ponape, *maras*.

USES IN ULITHI

A small tree whose flowers and fruit are used medicinally. The wood is used for fires but is taboo to the public fish magician. It is also used for canoe bailers.

COMPARATIVE USES

In **Ifaluk** the wood is used for houses. In **Puluwat** the wood is used to make canoe platforms. In **Truk** the bark is used in magic to stop rain. In **Namoluk** the long saplings are used as poles for poling canoes along the reef, and in building construction; small saplings are used to make outrigger platforms on canoes; the bark is used medicinally.

Suriana maritima L. *wao*

Mogmog I., Lessa No. 16, 1947; det. M. Neal.

USES IN ULITHI

A shrub used for house posts, adze handles, frames for lobster nets, canoe struts, bars connecting outrigger booms to the float, and firewood. Its bark has medicinal uses, as in the treatment of *mathekhil si*, or stomach pains due to either a spirit, bad food, intestinal worms, or agressive thoughts.

MELIACEAE (Mahogany Family)

Melia azerdarach L. *prais*

Mogmog I., Lessa No. 30, 1947; det. M. Neal.

VERNACULAR TERMS

English "pride of India" (hence *prais*?), "Indian lilac," "Persian lilac," "china-

berry tree," "bead tree"; Ponape *lelah.*

USES IN ULITHI

A tree whose small fragrant flowers are used in leis.

EUPHORBIACEAE (Spurge Family)

Euphorbia atoto Forst. f. *habwubwuleng*

Mogmog I., Lessa No. 90, 1947; det. M. Neal.

VERNACULAR TERMS

Pingelap *pĕlĕpel.*

USES IN ULITHI

A milky sap plant used medicinally.

COMPARATIVE USES

In **Ifaluk** the plant is used to treat baby skin rash.

Euphorbia hirta L. *tekherokhar*

Mogmog I., Lessa No. 89, 1947 (Bish. No. 42550); det. M. Neal.

VERNACULAR TERMS

English "garden spurge," "hairy spurge," "old blood"; Fais *habulbul*; Truk *kichich, moneniop.*

USES IN ULITHI

A milkysap herb used medicinally.

Phyllanthus amarus Schum. & Thonn. *humukhumar*

P. urinaria sensu Neal, non L.

Mogmog I., Lessa No. 51, 1947 (Bish. No. 144026); det. M. Neal originally as *P. niruri* L., but redetermined in 1976 by H. St. John as *P. amarus* Schum. & Thonn. Three specimens in the herbarium collected in Ulithi Atoll in 1946 by E. Y. Hosaka (3226, 3208) and by F. R. Fosberg and C. Y. C. Wong (25510), that were determined originally as *P. niruri,* were redetermined in 1955 by G. L. Webster as *P. amarus.* My field notes read that the "leaves are sensitive to the touch."

VERNACULAR TERMS

Yap *gogich*; Fais *piapi*; Ifaluk *gaisis*; Satawal *walpichi*; Truk *neganaur* or *nekamaur* (Fosberg 24518).

USES IN ULITHI

A small wild herb used medicinally.

Phyllanthus marianus Muell.-Argov. *hamasorolpipi*

Mogmog I., Lessa No. 65, 1947; det. M. Neal.

USES IN ULITHI

An erect shrub whose leaves are used medicinally, as in the treatment of *bwaräkhil si,* or stomach pains caused by either spirits, bad food, intestinal worms, or aggressive thoughts.

SAPINDACEAE (Soapberry Family)

Allophylus timorensis (DC.) Blume *ngoi*

Potangeras I., Lessa No. 130, 1947; det. M. Neal.

VERNACULAR TERMS

Woleai *ngù*; Ifaluk *nge*; Puluwat *nngé*; Namonuito *ngö*; Namoluk *nguner*; Lukunor *nga*; Satawan *nga, ngu*; Ant *nguh*; Mokil *kitak*; Pingelap *kitak*.

USES IN ULITHI

A small tree used medicinally, its buds and leaves being used to treat *mathakhil chum*, or headache accompanying certain maladies of supernatural origin or resulting from aggressive thoughts. The wood may be used to make weir baskets.

COMPARATIVE USES

In **Ifaluk** the wood is used to make fish traps; small branches are used as flyswitches; the tree has no medicinal uses. In **Namoluk** the wood is used for lean-to shelters and as fuel; the leaves are used to reduce swelling when crushed and applied to painful swollen bruises.

TILIACEAE (Linden Family)

Triumfetta procumbens Forst. f. *harȯkh*

Mogmog I., Lessa No. 53, 1947; det. M. Neal.

VERNACULAR TERMS

Woleai *gurag*; Eauripik *karak*; Ifaluk *gerag*; Satawal *ara*; Namoluk *ara*; Namonuito *ara*; Nomwin *kuuin* (Fosberg 24569), *kwn*; Truk *kiuin* (Fosberg 24619); Mokil *konup*; Pingelap *konŏp*.

USES IN ULITHI

A trailing suffrutescent shrub used medicinally and in amulets. The fruit is one of the eight fruits put into the "flying fish bundle" offered to the spirits by the public fish magician in his annual ritual. Parts of the shrub may be fashioned in any of various ways, by either men or women, to make a love charm that is worn, carried in a basket, or left at home.

COMPARATIVE USES

In **Ifaluk** whole sections of the plant are used for leis; the burrs and leaves are used medicinally, being mashed and drunk in a green coconut. In **Namoluk** it is used in leis and medicine. In **Nomwin** the fruits are crushed and the juice is drunk for diarrhea. In **Pingelap** the flexible stems provide a firm, shiny fiber that is much used, when dyed, in plaiting belts, mats, and so on.

MALVACEAE (Mallow Family)

Abelmoschus moschatus (L.) Medicus *hathongethong*

H. abelmoschus L.

Mogmog I., Lessa No. 25, 1947; det. M. Neal.

VERNACULAR TERMS

English "musk mallow"; Ifaluk *kamwayang*; Truk *karereòn, nikapwerik, nikönö-köon, setmwechin*; Ponape *metey*.

USES IN ULITHI

An herb used medicinally.

COMPARATIVE USES

In **Ifaluk** single flowers are put in the hair; young flowers are smashed up in water or young coconuts to make a medicine for treating sicknesses of many kinds. In **Ponape** the leaves are used for relieving pains after childbirth.

Hibiscus tileaceus L. *hulïföi*

Partiti tiliaceum (L.) A. St. Hill

Mogmog I., Lessa No. 6, 1947; det. M. Neal.

VERNACULAR TERMS

English "sea hibiscus"; Sonsorol *xirifoi*; Palau *aramal*; Yap *gal*; Woleai *gilifa*; Ifaluk *gilivo*; Satawal *kilifu*; Puluwat *kilifé*; Truk *sapwo, sinifö, sinifü* (Fosberg 26034); Namoluk *kilifö*; Ant *kileefah*; Ponape *kalau*; Mokil *pah*; Pingelap *kalau*; Kusaie *lo* (Fosberg 26692).

USES IN ULITHI

A small tree whose bast fibers are used to weave the coarser men's loincloths (mixed with banana fiber) and women's wraparound skirts. It is used in the making of the *püch*, a long "grass" garment worn by small boys over their genitals, and the *sif*, a "grass" skirt worn by prepubertal girls, although more commonly this garment is made of shredded coconut leaflets. The inner bark is also used in the making of twine and fishline. The bark is used to treat *burafäs*, or constipation, and *ilurkhof*, or running ears, believed to result from having angered a spirit by eating tabooed octopus. The wood is used in house beams, canoe parts, paddles, the frames of looms, and fires, as well as in the making of the spear used by the typhoon magician.

COMPARATIVE USES

In **Palau** rope is made from the bark. In **Yap** the inner bark is used to make rope and the ornaments of men's loincloths (which themselves are made of banana fiber); being resilient the young wood is used for the frames of fish nets, as well as floats; the wood is split and used for the ribs of boats because it does not rot easily. In **Ifaluk** the bast is woven into men's loincloths (mixed with banana fiber) and women's wraparound skirts, twisted into twine and fishing line, and used as a band between the feet for climbing trees; the wood is used for adze handles and spars in canoe sails; the wood burns well and is used for starting fires; the leaves are used to cover food. In **Truk** the wood is used to make fire ploughs, breadfruit picking poles, poles for the framework of the walls of a house, canoe paddles, bailers, the hull and float of model racing canoes, and fishing line floats; the bast is used alone in the weaving of inferior grades of women's wraparound skirts (some of which may be converted into poncho-like capes used by both men and women), and mixed with banana fiber in the weaving of the more valued skirts worn by younger women

Fig. 4. Girl wearing postpubertal wraparound skirt. The garment is woven from the bast of *Hibiscus tileaceus*.

when dancing; the poncho-like cloaks worn by men are woven from either hibiscus or banana fibers; the bast is used to make fish lines and other cordage, slings, mosquito nets, and suspension cradles; the plant has medicinal uses, the flowers being used for eye troubles. In **Namoluk** the wood is used in house construction, for the outrigger struts on paddling canoes, as poles for poling canoes on the reef, for the long poles used in picking breadfruit, in the manfuacture of model canoes, and in making men's dance ornaments; the young leaves, bark, and unopened flowers are used medicinally, especially for women; the bark fibers are used in weaving cloth and in making fish nets, slings, and twine, as well as in tying the umbilicus of newborn infants. In **Ponape** the terminal buds are employed in relieving pain after childbirth; the juice of the bark is used as a medicine to hasten childbirth; powdered terminal buds are applied to a sprained ankle or wrist, and used to treat "disease of vomit blood"; the bark is used for twine, fiber skirts, kava wringers, and a variety of other purposes; the wood is used for carrying poles, paddles, etc. In **Pingelap** fibers from the bark are used in making rope, fish line, hats, and baskets, and the leaves are often used in washing clothes.

STERCULIACEAE (Cocoa Family)

Melochia compacta Hochreut. *huruwel*

Melochia odorata L. f.

Mogmog I., Lessa No. 12, 1947; det. M. Neal originally as *M. odorata* but changed by A. C. Smith in 1968 to *M. compacta* in accordance with his revision fo the *Melochia* genus.

VERNACULAR TERMS

Ponape *kotol.* An apparent cognate of Ulithian *huruwel* has been reported for Woleai but refers to an entirely different species of the Urticaceae family, *Pipturus argenteus.*

USES IN ULITHI

A tree used for firewood, house posts, pot covers, leis, and medicine. Medicinally, the buds and fruit are used to treat *mai,* an illness characterized by vomiting, dizziness, body pains, shivering, fever, and delirium, believed to be contracted by incurring the anger of a tree spirit.

GUTTIFERAE (Mangosteen Family)

Calophyllum inophyllum L. *fötöi*

Mogmog I., Lessa No. 23, 1947; det. M. Neal.

VERNACULAR TERMS

English "Alexandrian laurel"; Palau *btaes* (Fosberg 25783); Yap *biyuuch*; Woleai *ragïch*; Eauripik *revich* or *ravich, fitus, sevan*; Ifaluk *ragich, ragick, ragitr, raguēs, sevang, vitou*; Puluwat *rákir*; Namonuito *ráguch*; Truk *rekich*; Namoluk *rakich*; Ant *ruckiss*, Ponape *isou, isyo, lipas*; Mokil *isho*; Pingelap *sepang*; Kusaie *itu* (Fosberg 26560).

USES IN ULITHI

A large tree whose wood is used in making canoe endpieces and hulls, although in practice many canoes are built on Yap by Ulithians and sailed back to Ulithi. The wood is used to make other canoe parts: thwarts, booms, bars connecting booms to the float, certain portions of the weather platform, leeward platforms, paddles, and the rudders used on large seagoing canoes. The wood is also used to make the handles of tattooing instruments, adze handles, and the spear used by the wave magician. Smoke from the burning nuts of the tree is caught on wood and used as a tattoo pigment. The gum of the tree is sometimes used for "shaving," being put on the fingers and face to pull out beard hairs. The fruit is one of eight fruits placed in the "flying fish bundle" offered to spirits by public fish magicians during their lengthy annual ritual. The leaves and bark have medicinal uses.

COMPARATIVE USES

In **Woleai** the wood is used for canoes. In **Ifaluk** the wood is used for making houses, food bowls, canoe hulls and endpieces, outrigger booms, paddles, and mast heads; the flowers are used in leis; the leaves are used to wipe off excess breadfruit

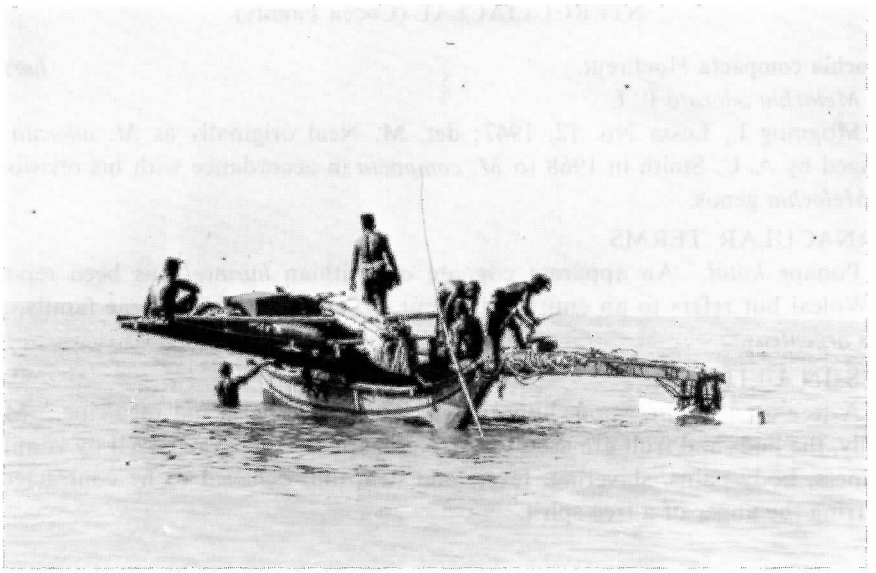

Fig. 5. Sea-going canoe preparing for a voyage to Fais. *Calophyllum inophyllum* is preferred for making hulls. Canoes are the highest expression of Ulithian craftsmanship.

gum calking from canoes; the bark is used in treating fever or general malaise. In **Puluwat** the wood is used for canoe parts; the flowers for leis. In **Truk** the wood is used for large ceremonial bowls. In **Namoluk** the wood is used for canoe houses and dwellings, carved bowls, goggles for spearfishing, canoe paddles, outrigger struts, and certain other canoe parts; soot is rubbed into tattoos; the flowers are used in leis and to scent homemade perfume; the leaves and bark are employed medicinally. In **Pingelap** the wood is used for canoe hulls and other canoe parts; the fruit is a medicinal and a source of oil.

Mammea odorata (Raf.) Kost. *lifös*

Ochrocarpus excelsus Planch. & Triana

O. excelsus (Zoll. & Mor.) Vesque

Mogmog I., Lessa No. 22, 1947 (Bish. No. 136496); det. M. Neal originally as *M. americanus* but redetermined by A. Kostermans in 1959 as *M. odorata.*

VERNACULAR TERMS

Yap *lubdol*; Ifaluk *livaus*; Namoluk *lifaus*; Satawan *lifaus*; Ponape *lúwas.*

USES IN ULITHI

A small tree whose fruits are eaten and also used in leis. The wood is used for canoe paddles, house posts, and adze handles. Various parts of the tree have medicinal uses, e.g., the bark is used to treat *wakh*, or "bad veins." To insure good fortune for a newly completed house, the carpenter utters a magical incantation over a branch and sticks it in the ceiling.

COMPARATIVE USES

In **Ifaluk** the wood is too heavy for canoes but is used for canoe paddles and in houses; the fruit is used as a perfume in the hair. In **Namoluk** the wood is used for house posts and other construction, and for adze handles; the flowers and fruits are used in leis; the leaves are used in massage. In **Ponape** it is used to ease the pain of a bruise.

CARICACEAE (Papaya Family)

Carica papaya L. *bwebwae*

Mogmog I., Lessa Nos. 27 and 31 (Bish. Nos. illegible); det. M. Neal. Two local varieties are: 27. *bwebwae* ("papaya") and 31. *bwebwael epsech* ("foreigner's papaya").

VERNACULAR TERMS

English "papaya"; Sonsorol *babaia*; Palau *babai* (Fosberg 32106); Yap *babae*; Woleai *bweibwae*; Ifaluk *baiwai, waiwai*; Puluwat *pwáyipwáy*; Namonuito *bwebwao, kipwae*; Truk *kippwaü*; Namoluk *momiap*; Ant *mohmiyap*; Ponape *momiap* (from English "Mommy apple"); Mokil *mamiyap*; Pingelap *kaineap*.

USES IN ULITHI

A soft-wooded lactiferous tree whose fruits are eaten, plain or in soups, particularly when young and green. (The fruit is a digestant and anthelmintic, containing the enzyme papain and the more active ferment papayotin.) Some trees grow wild. Only the female tree bears fruit. The leaves are used as head ornaments or are fashioned in various ways by women to make *ielsöl*, or love charms, that are worn either as neckpieces or headpieces.

COMPARATIVE USES

In **Sonsorol** the leaves are heated and applied externally to the chest or side to relieve pain; the inner layer of the bark is scraped into shavings and heated, the fumes being sniffed to relieve pain; the bark is mixed with the flowers and dipped in boiled coconut oil to form a poultice applied to the heart area, underarm, bend in the elbow, and wrist, to induce sleep and relieve the pain caused by a puncture in the skin made by a fin or any sharp point in a fish, the mass being applied to the heart area, pelvis, knee, and ankle if the cut is on the foot (in neither kind of cut is it applied to the cut itself); juice from the fruit is dropped on a cut made by a sting ray to relieve pain. In **Fais** the fruit is eaten and the flowers used for leis. In **Palau** the leaves and roots are pounded, placed in a bag, and soaked in water, and then drunk to treat tuberculosis. In **Ifaluk** papayas form an important secondary food, being more commonly cooked than eaten as ripe fruit; the male flowers are used as garlands. In **Puluwat** the flowers of the male tree are used in leis. In **Truk** the tree is planted rather extensively and is eaten mostly while working in the bush. In **Namoluk** the fruit is eaten; the flowers are used in leis; the leaves are scattered around true taro plants as mulch; the hollow leaf stem sometimes serves as a straw. In **Ponape** the tree is never cultivated but grows wild everywhere; it is

well liked because it is plentiful and requires no work and its fruit is flavorful; the fruit is sometimes used as chicken feed and the leaves are eaten by pigs and cows. In **Mokil** this is the leading fruit tree but it is not a very important source of food.

LYTHRACEAE (Loosestrife Family)

Pemphis acidula J. R. & G. Forst. *hangi*

Potangeras I., Lessa No. 32, 1947; det. M. Neal.

VERNACULAR TERMS

Sonsorol *xanji*; Woleai *gaingi*; Ifaluk *gaingei*; Satawal *engi*; Puluwat *yeengiy*; Truk *engi*; Namoluk *chekis*; Nomwin *engi*; Ant *tru-kees*; Ponape *ngi*; Mokil *kahengy*; Pingelap *ngi*.

USES IN ULITHI

A small tree whose unusually hard wood is used for making a preweaving board for setting up the warp, and for fishhooks, the handles of adzes and tattooing tools, loom swords, weir baskets, house beams, and the spear used by the wave magician. The wood is also used to make the *khurukhur* (citrus) stick, a walking staff with a slight bulge in the middle and flaring ends, that is occasionally used in the dance. In folklore the stick is endowed with magical properties, taking on, for example, the character of a magical wand. The stick is mentioned in the type of songs called *hachuchu*, which are sung by an audience attending a seance, it being said that the singing both induces the spirit to possess the medium and to keep it content during possession. A medicine made from the bark is given to babies after each meal to help promote their growth.

COMPARATIVE USES

In **Ifaluk** the wood is used for adze and axe handles, stakes for opening coconuts, levers, poles, walking sticks, and fish traps; small sticks are used to connect the lower side of the booms of an outrigger at the lower end of the struts; the bark and leaves are mixed with toddy to make a baby strong. In **Puluwat** the wood is used for canoe timbers; the bark is used to make a medicine for diarrhea. In **Truk** the wood is used to make thatching needles, coconut husking stakes, stakes to which canoes are tied in shallow water, and (formerly) weapons, and in building construction; the bark and flowers have medicinal uses.

LECYTHIDACEAE (Brazil Nut Family)

Barringtonia asiatica (L.) Kurz. *hul*

B. speciosa Forst.

Mogmog I., Lessa No. 29, 1947; det. M. Neal.

VERNACULAR TERMS

English "barringtonia"; Sonsorol *xu:r*; Yap *biuol, bivol*; Fais *gol*; Woleai *gul*; Ifaluk *gul, hol*; Satawal *kul*; Puluwat *kulun, kuul*; Namonuito *kul*; Truk *kun*; Namoluk *kul*; Ant *ool*; Ponape *we, wih*; Pingelap *wi*.

USES IN ULITHI

A tree whose leaves are used as dishes and as covers for containers of food. The leaves are made into a poultice to treat *khilsobou*, or ringworm, which is said to be contracted by those who break certain taboos.

COMPARATIVE USES

In **Yap** some people use the bark to make a medicine. In **Fais** the tree is used medicinally; the wood is used in canoes. In **Ifaluk** the leaves are used for food wrappers, and wreaths; the wood is used for house and canoe construction and bowls; the bark and fruit are mashed up and put on yaws sores; a concoction from the fruit is used for bad dreams. In **Namoluk** the wood is used for fuel and the leaves to wrap food; the seeds are grated and put into tide pools to stupefy fish; the seeds, flowers, and leaves serve in local medicines. In **Pingelap** the seeds have value as a fish poison.

COMBRETACEAE (Terminalia Family)

Terminalia catappa L. *kell*

Mogmog I., Lessa No. 19, 1947; det. M. Neal.

VERNACULAR TERMS

English "tropical almond," "Indian almond," "false kamani"; Palau *mia* (Fosberg 25800); Woleai *gil, gùl*; Ifaluk *kasas*; Truk *asas*; Namoluk *sif*; Ant *uhsass*; Ponape *dipwoapw, thipwopw, tipop*; Pingelap *tepŏp*.

USES IN ULITHI

A small tree whose nuts are eaten and whose wood is used for house posts, firewood, and certain parts of canoes. Parts of the tree are used medicinally.

COMPARATIVE USES

In **Ifaluk** small boys eat the nuts. In **Truk** the wood is used for paddles; the nuts are eaten; the pounded bark scrapings are used in a preparation to treat infant diseases caused by the god Os. In **Namoluk** the seeds are eaten; the trunk is used for house posts; the larger branches are used in house construction. In **Ponape** the tree grows wild and is never cultivated, but the nuts are occasionally gathered by men, women, and children and eaten raw after being shelled; medicinal uses.

Terminalia samoensis Rech. *kïl*

T. littoralis Seeman

T. saffordii Merrill

Mogmog I., Lessa No. 20, 1947; det. M. Neal.

VERNACULAR TERMS

Ifaluk *kil*; Satawal *kil*; Namonuito *kön*; Nomwin *sin* (Fosberg 24561); Truk *sin* (Fosberg 24615); Namoluk *kin*; Ant *kin*; Mokil *win*; Pingelap *win*.

USES IN ULITHI

A small tree whose nut is occasionally used for food and whose wood is used

for house posts and a preweaving device for preparing banana fibers for the loom.

COMPARATIVE USES

In **Ifaluk** the fruit is eaten, and the bark and leaves used to make a medicine or a chewing wad for treating "bacillary dysentery." In **Namoluk** the nut is eaten irregularly and the wood is used for wooden bowls, building construction, and canoe paddles. In **Pingelap** the wood is used for tool handles.

MYRTACEAE (Myrtle Family)

Eugenia malaccensis L. *harafath*

Jambosa malaccensis (L.) DC

Syzygium malaccense (L.) Merr. & Perry

Mogmog I., Lessa No. 4, 1947; det. M. Neal as *Syzygium malaccense* (L.) M. & P. and so filed in the herbarium.

VERNACULAR TERMS

English "Malay apple," "mountain apple"; Sonsorol *fariep*; Yap *arifath*; Ifaluk *faliap*; Puluwat *fáányááp*; Truk *faniap* (for *Eugenia* sp.); Namoluk *feniap* (for *Eugenia* sp., "mountain apple tree"); Ponape *apel* (English corruption), *päniap*.

USES IN ULITHI

A tree whose fruits are eaten for food; insects attack the fruit when it has ripened and it falls to the ground in large numbers. The wood is used for firewood, canoe paddles, rudders, house posts, and house boards. The bark is used for medicine, as in the treatment of *maragus*, or yaws, which is believed to be an aftermath of filariasis or a disease called *iùlau*, and in the treatment of *mesecha*, or amoebic dysentery. Parts of the tree are used in amulets. The leaves of the mountain apple are tied together with young coconut leaves to make a *rorpai*—a bundle worn to terminate the taboos imposed on grave-diggers, corpse-washers, new mothers, and newly menstruating girls. *Rorpai* are also used to purify the palm leaf knot diviner, the navigator, the weather magician, and anyone else who may have violated a taboo unintentionally.

COMPARATIVE USES

In **Ifaluk** (also det. as *E. javanica*) the wood is used for house posts, the tender leaves are used to make a medicine for treating nausea in children. In **Namoluk** large branches are cut into struts leading to the outriggers of sailing canoes, and the trunk sometimes serves for house posts. In **Ponape** the tree grows wild, although a few people plant it; the fruit ripens during the humid season, when it is gathered from the ground by men, women, and children and eaten raw in passing.

ONOGRACEAE (Evening Primrose Family)

Ludwigia octovalvis (Jacq.) Raven *hòl*

Jussiaea suffruticosa L.

J. octovalvis (Jacquin) Sw.

Mogmog I., Lessa No. 88, 1947; det. M. Neal as *J. suffruticosa.*

VERNACULAR TERMS

English "primrose willow"; Woleai *goyl*; Ifaluk *goul*; Truk *aünenipwin*; Namoluk *aieö*; Ant *ayah*; Ponape *deleurakh* (Fosberg 26252), *teleurakh* (Fosberg 26267); Mokil *kiree*; Pingelap *kuri.*

USES IN ULITHI

An herb whose bark is used medicinally, as in the treatment of *mesecha*, or amoebic dysentery. The fruit is one of eight fruits used in the "flying fish bundle" offered by the public fish magician to the spirits.

COMPARATIVE USES

In **Ifaluk** the plant is used as a mulch; the leaves are used to make medicine. In **Truk** black dye for cloth is obtained from the leaves. In **Namoluk** the whole plant is used medicinally.

UMBELLIFERAE (Carrot Family)

Centella asiatica (L.) Urb. *hapbwòsol*

Mogmog I., Lessa No. 98, 1947 (Bish. No. 39733); det. M. Neal.

VERNACULAR TERMS

English "Asiatic pennywort"; Woleai *aral nimal*; Ifaluk *hara* or *kara hara nume*; Puluwat *likótókot*; Truk *nikòtòk*; Ponape *li-wadawad-marer, luwut-uwut-marek.*

USES IN ULITHI

A creeping herb used medicinally.

COMPARATIVE USES

In **Truk** the leaves are used to wrap a swelling caused by being pierced by a scorpion fish. In **Ponape** the herb has medicinal uses.

APOCYNACEAE (Periwinkle Family)

Neiosperma oppositifolia (Lam.) Fosberg & Sachet *mo*

Cerbera oppositifolia Lam.

C. parviflora Forst. f.

Ochrosia oppositifolia (Lam.) K. Schum.

O. parviflora (Forst. f.) G. Don

Mogmog I., Lessa No. 18, 1947 (Bish. No. 130722); det. M. Neal.

VERNACULAR TERMS

English "fao" (Samoan word); Fais *mo*; Woleai *umwa*; Ifaluk *umo*; Namonuito *umwá*; Namoluk *umwa*; Satawan *uma, umua*; Ant *oomah*; Ponape *kitee.*

USES IN ULITHI

A tree used for house posts, roof poles, canoe paddles, rudders and firewood. The wood is taboo as firewood to the fish magician. The seeds are eaten only rarely.

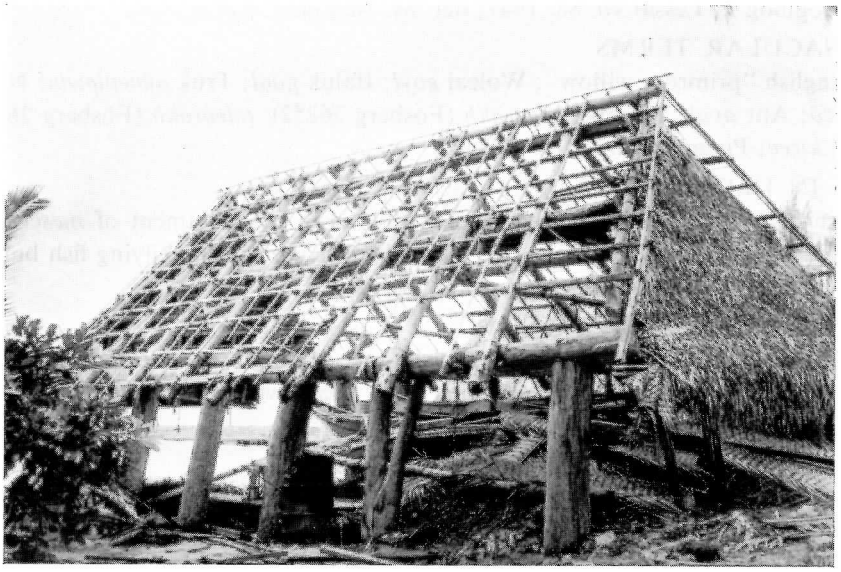

Fig. 6. Dwelling prepared for reroofing with plaited coconut fronds. Rafters are sometimes made of *Neiosperma oppositifolia*.

The tree has medicinal uses.

COMPARATIVE USES

In **Fais** it is used in medicine. In **Ifaluk** the wood is used for canoe paddles and house construction; the bark is used for cough medicine. In **Namoluk** its wood is used in building construction, as poles for poling canoes, and in making canoe paddles; its edible seed kernels are used only rarely. In **Ponape** it is used for house rafters.

Plumeria rubra L. *sour*

P. acuminata Aiton

Mogmog I., Lessa No. 7, 1947 (Bishop No. 130830); det. M. Neal, confirmed by Fosberg in 1968.

VERNACULAR TERMS

English "plumeria," "frangipangi"; Fais *sour*; Woleai *shodu*; Ifaluk *seur, sor(u)*; Satawal *seu*; Puluwat *sérúŕ, yeewuŕ*; Namonuito *séur*; Nomwin *sour*; Truk *seur*; Namoluk *pumeria* (foreign word); Ponape *pomaria* (foreign word); Mokil *pomaria* (foreign word); Pingelap *pomaria* (foreign word).

USES IN ULITHI

A shrubby tree used for leis, frames for underwater goggles, and medicine.

COMPARATIVE USES

In **Fais** the flowers are used for leis. In **Ifaluk** the tree is used only for leis. In **Puluwat** the flowers are much used in leis. In **Namoluk** the flowers are used in leis and perfumes; the sticky white sap is used as a glue; the wood is carved into

goggles for spearfishing.

Thevetia peruviana (Pers.) K. Schum. *irel epsech*

Mogmog I., Lessa No. 139, 1947 (Bish. No. 12257); det. M. Neal.

VERNACULAR TERMS

English "be-still tree," "yellow oleander," "trumpet flower," "lucky nut"; Truk *koneta*. The Ulithian name merely means "foreigner's tree."

USES IN ULITHI

An arborescent shrub whose flowers are used for leis. All parts of this plant are poisonous.

CONVULVOLACEAE (Morning Glory Family)

Ipomoea batatas (L.) Poir. *kömòti*

Mogmog I., Lessa Nos. 71–79, 1947; det. M. Neal. A tuber from each of the nine varieties was turned over in 1947 to the Hawaiian Agricultural Experiment Station and successfully planted. The nine cultivars are: 71. *kömòti benikawa* (red skin, white flesh; introduced by the Japanese), 72. *kömòtiel okinawa* (red skin, light yellow flesh; introduced by the Japanese), 73. *kömòtiel meriken* (yellow skin, yellow flesh; introduced by the Americans?), 74. *kömòti chawöl* (white skin, white flesh), 75. *kömòti bwech mechakhchokh* (white skin, soft white flesh), 76. *kömòti bwech ramasou* (red skin, very hard white flesh), 77. *kömòti matarang* (white skin, yellow flesh), 78. *kömòti rangrang* (white skin, yellow flesh), and 79. *kömòti ramasou* (white skin, white flesh).

VERNACULAR TERMS

English "sweet potato"; Sonsorol *kumiet*; Yap *kamot'*, *kamoti'*; Ifaluk *gamuti*; Satawal *komote*; Puluwat *kómwuutly*; Truk *kamuti*; Ponape *pwetëte* (English corruption).

USES IN ULITHI

This creeping vine is cultivated for its edible tubers and leaves. (In 1947 and 1948–1949 the plants were very plentiful, but in 1960 I observed that they were scarce. No reason for this could be ascertained.)

COMPARATIVE USES

In **Fais** the sweet potato is abundantly cultivated and it has been reported that probably more than one cultivar is present. In **Ifaluk** the people like sweet potatoes and frequently plant them in their gardens, but they do not grow well and consequently are a minor source of food; both the tubers and leaves are eaten. In **Lamotrek** it is cultivated but is of little importance. In **Satawal** it is planted in the village. In **Truk** the cultivation of the plant was increased greatly through encouragement by the Japanese. In **Ponape** although it grows well it has not been widely accepted; its sweet flavor is not particularly well liked; both the leaves and the tubers are eaten, and the vines are used as pig food.

Ipomoea littoralis Blume *chawel*

Convulvulus denticulatus Desr.

Ipomoea choisiana W. F. Wight ex Safford

I. denticulata (Desr.) Choisy

I. gracilis sensu Merrill, not of R. Brown

Mogmog I., Lessa No. 55, 1947; det. M. Neal originally as *I. gracilis* R. Brown but changed in 1965 by F. R. Fosberg to *I. littoralis* Blume.

VERNACULAR TERMS

Woleai *chaiwel, ririo*; Ifaluk *schaiuwel, shaiuwel, zhaiuwel*; Satawal *raiwal*; Truk *ruke, rukorukh*; Namoluk *rokurok, imwen uut*; Ant *ahfahmus*; Ponape *ömp*; Mokil *ohlop.*

USES IN ULITHI

A maritime creeping vine whose leaves are used medicinally to treat *misngau,* or measles. The flowers are woven into a head wreath and worn as a good luck charm of the *holbu* category.

COMPARATIVE USES

In **Ifaluk** the leaves are eaten after cooking in water but only after typhoons, when food is scarce. In **Truk** the leaves may be pounded and eaten with the sauce of unfermented palm toddy. In **Namoluk** the flowers are used occasionally in leis; the leaves and stems, when mixed with unfermented coconut toddy and baked in an earth oven, provide a famine food; the flowers, stems, and leaves are used medicinally. In **Ponape** two varieties, both with the same name, are recognized; the first has shorter leaves that are eaten raw or used in cooking, and are added to "fish pot" when this is cooked; the second has longer leaves and a larger hollow vine, the ends of which are sometimes fried with the small leaves or added to "fish pot," but are not eaten raw; both varieties grow wild and are never cultivated, being one of the chief plant pests that must be cleared from the farm.

Ipomoea marantha R. & S. *walfichfich*

Convulvulus tuba Schlecht.

Ipomoea grandiflora (Choisy) Hall f.

I. tuba (Schlecht.) G. Don

Mogmog I., Lessa No. 59, 1947; det. by M. Neal originally as *I. marantha* R. & S.

VERNACULAR TERMS

English "moonflower" (the same name is also applied to another plant); Woleai *gùfamach*; Ifaluk *garenap, walima.*

USES IN ULITHI

This climber is used medicinally. It is one of two ingredients used in treating a disease called *ialau,* believed to be contracted by travelers who have broken certain food taboos.

COMPARATIVE USES

In **Ifaluk** the leaves are used for covering food.

BORAGINACEAE (Heliotrope Family)

Cordia subcordata Lam. *halau*

Potangeras I., Lessa No. 34, 1947 (Bish. No. 34082); det. M. Neal.

VERNACULAR TERMS

English "kou" (Hawaiian word); Sonsorol *harawa*; Woleai *gùlu*; Ifaluk *galu, gula, kelau*; Satawal *alu*; Puluwat *yaalúw, yaané*; Namonuito *anögut*; Nomwin *anno* (Fosberg 24558); Truk *anaü, anikät, annö*; Namoluk *aleu, anau*; Satawan *alau, aleu*; Ant *ahlew*; Ponape *eekoh-eek*; Mokil *kanaw*; Pingelap *ikoh-ik*; Kusaie *ikwaiak* (Fosberg 26550).

USES IN ULITHI

A tree whose bark is used to make a medicine that is given to babies after each meal to cause them to grow. Its leaves, too, have medicinal uses. The tip of a branch is mixed with other ingredients to treat filariasis, believed to be caused by sea spirits entering the body. The wood is used for the handles of adzes and tattooing tools, and sometimes the spear used by the wave magician. The wood is also used for various canoe parts: thwarts; parts of the leeward and weather platforms, the bars and forked posts connecting the booms to the float, and paddles and rudders.

COMPARATIVE USES

In **Sonsorol** the wood is used for corner posts of buildings; the young leaves are mixed with the leaves of two other plants, pounded, and the juice squeezed into a cup and drunk to cure someone who is sick and has a white-coated tongue. In **Ifaluk** the wood is the first choice for house posts, said to be very durable in the ground, and is used in canoe parts; children eat the fruit; the red flowers are used for leis; the leaves are made into a medicine drunk by navigators to treat an illness caused by the god of navigation. In **Truk** the wood is used for bowls, outrigger booms, and canoe paddles; protective magic. In **Namoluk** the wood is used in making canoe prows and paddles, and for general building materials; the flowers are used in leis; the bark and leaves have medicinal uses. In **Mokil** the trunk is used in making canoes.

Messerschmidia argentea (L. f.) Johnson *chel*

Tournefortia argentea L. f.

Mogmog I., Lessa No. 8, 1947 (Bish. No. 134536); det. M. Neal.

VERNACULAR TERMS

English "tree heliotrope," "velvet leaf"; Sonsorol *aseri*; Palau *rirs* (Fosberg 25789); Yap *chen*; Fais *chel*; Woleai *chel*; Ifaluk *chel, treli, trel(i)*; Satawal *chel*; Puluwat *ccen, yamolehát*; Namonuito *jin*; Nomwin *amoloset* (Fosberg 33568), *chen*; Truk *amoneset, chen*; Namoluk *amäloset*; Ant *amunusut*; Ponape *titin*; Mokil *sisin*; Pingelap *sěsěn*.

USES IN ULITHI

A small shrubby tree the tips of whose branches are used to make a medicine

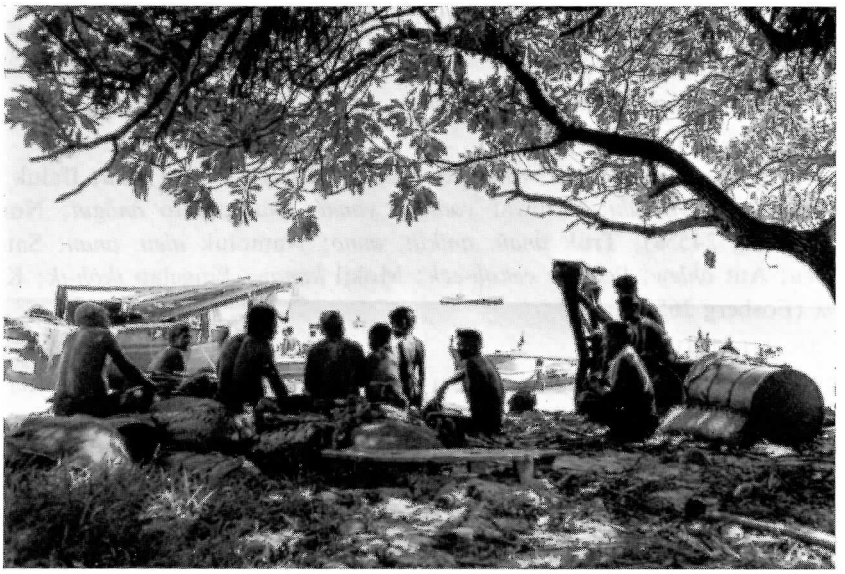

Fig. 7. Men sitting in the shade of a *chel* tree, *Messerschmidia argentea*. The tree is used for medicine, canoe parts, and earth ovens.

to treat filariasis. The fruit, leaf buds, and bark are mixed with young pandanus leaves to make a medicine bundle to stop vomiting in babies. The wood is used in earth ovens and for the forked posts connecting the booms of outriggers to the float.

COMPARATIVE USES

In **Sonsorol** the juice of pounded leaves is used to treat coral cuts and eel bites. In **Fais** the wood is used in canoe making. In **Ifaluk** the wood is favored for the forked sticks attaching outrigger floats to booms; the fruit, leaves, and bark are mashed together to make a medicine for treating a swelling said to come from an octopus getting into the body. In **Truk** the branches at the surface of the ground are used to make a magic medicine to cure diseases caused by breaking sea taboos. In **Namoluk** the wood is used for specific canoe parts, goggles, carved masks, firewood, and sometimes house posts; the young unopened leaves are used to treat persons afflicted by sea spirits; the immature flower stalk is employed in love magic.

VERBENACEAE (Verbena Family)

Callicarpa erioclona var. **paucinervia** (Merr.) Moldenke *hatar*

C. cana L. (a rejected name for a different species)

Mogmog I., Lessa No. 24, 1947; det. originally by M. Neal as *C. cana* L., but redetermined by H. N. Moldenke as *C. erioclona* var. *paucinervia* (Merr.) Moldenke.

VERNACULAR TERMS

None seem to appear in the literature for the only other places in the Carolines

(Babelthaup, Peleliu, Yap) listed as locales where this particular species and variety occurs.

USES IN ULITHI

A shrub whose leaves are used medicinally, as in the treatment of *mathakhil tagarui*, or backache. The fruits are eaten raw.

Clerodendrum inerme (L.) Gaertn. *habwi*

Mogmog I., Lessa No. 21, 1947; det. M. Neal, confirmed by H. N. Moldenke.

VERNACULAR TERMS

English "butterfly pea"; Sonsorol *habiya*; Palau *umbreret*; Yap *ara*; Woleai *gabwi, habui*; Ifaluk *gabwi*; Satawal *aupui*; Puluwat *wuló*?; Namonuito *ula*; Truk *apuech* (Fosberg 24646), *apwöch, etiu, pucherik*; Ant *oolah*; Ponape *ilau, ula*; Pingelap *ilau*. (Note that some of these vernacular terms, such as *gabui, gabwi, habui* seem to be cognates not only of Ulithian *habwi* but also of the vernacular terms for *Piper betle* L., namely *gabui, gabwï, habiy, habui*. I do not know how to interpret this similarity.)

USES IN ULITHI

A woody climber whose leaves are used medicinally, such as in the treatment of *khilsobou*, or ringworm, believed to be contracted by wind magicians and others who break food taboos.

COMPARATIVE USES

In **Sonsorol** after a person has fallen (as from a tree) the leaves of this plant are pounded, squeezed into a cup, and drunk in order to help settle the stomach and make waste disposal normal; the leaves are also pounded, mixed with coconut oil, and spread on a mat for the injured person to lie on; this medicine is used every day after the fall until the person is better. In **Palau** the plant is used as a medicine and a fish poison. In **Ifaluk** the withes are used for fish traps; the flowers are used for leis. In **Ponape** the leaves are used in conjunction with other plants in the treatment of rheumatism, as a hemostatic in menstruation, and as an abortifacient; juice from the leaves is smeared over the body to treat "disease of mangrove."

Premna gaudichaudii Schau. *iar*

Mogmog I., Lessa No. 11, 1947; det. M. Neal originally as *P. integrifolia* L. (=*Premna obtusifolia* R. Brown), a name now rejected; redetermined by H. E. Moldenke as *P. gaudichaudii* Schau.

VERNACULAR TERMS

Ant *orr*; Mokil *subuk*; Pingelap *sobuk*. (Cognates of Ulithian *iar* appear in various Caroline Islands under differing taxons that may or may not be acceptable synonyms of *P. gaudichaudii*. Until their identity is established they cannot be included. However, for what they are worth they are here presented: Yap *ar* (Fosberg 25528); Fais *iar*; Woleai *yar*; Ifaluk *aro, yar*; Satawal *eár* or *iár*; Truk *niór*; Namoluk *yeaar*.) Ponape, *dopwuk, topuk*.

USES IN ULITHI

The wood of this small tree is used for house posts, the bars that connect canoe booms to the float, and firewood, and for starting fires (by rubbing two sticks together). Various parts are used in leis, medicine, and amulets. Medicinally, the fruits are used to treat *mathakhil chum*, or headaches accompanying several maladies of supernatural origin or resulting from harboring aggressive thoughts. The leaves are mixed with *Morinda citrifolia* leaves to make a hot compress used in treating colds and influenza, which are believed to be inflicted magically from Yap. The fruit is one of eight fruits placed in the "flying fish bundle" offered to the spirits by the public fish magician in his annual ritual. A branch of the tree is waved in a vertical circle during an incantation intended to cure stomachache in a baby. A canoe carpenter, as part of his magical ritual, plucks a branch with six leaves and waves it in a horizontal circle over the leeward side of a canoe. A house carpenter utters a spell over a branch as part of his ritual and, sitting on the floor of the house, waves it in a horizontal circle to insure durability for the house and happiness for the occupants. In order to charm women, men take a twig and some leaves and make earpieces called *ielsöl*. The tree is an evocative symbol associated with love, affection, beauty, goodness, and almost all pleasurable sentiments and virtues.

COMPARATIVE USES

Although the literature does not appear to give uses for *P. gaudichaudii* in other Caroline Islands, except for Ponape, it does give uses for species that have, correctly or incorrectly, been listed as synonyms. These uses are often similar or even identical to those for Ulithi, especially in Ifaluk, where the same kind of stress on symbolism may be found. In **Ponape** it is used in drums and medicine.

LABIATAE (Mint Family)

Ocimum basilicum L. *warongel epsech*

Mogmog I., Lessa No. 82, 1947; det. M. Neal.

VERNACULAR TERMS

English "sweet basil." The Ulithian vernacular name means "foreigner's *warong*," showing recognition by the natives of its relationship to but not identity with *Ocimum sanctum* (see below).

USES IN ULITHI

An herb used for leis.

Ocimum sanctum L. *warong*

Mogmog I., Lessa No. 83, 1947; det. M. Neal.

VERNACULAR TERMS

English "sacred basil"; Yap *lamar*; Fais *warong*; Woleai *warong* (for *O. canum*); Ifaluk *warung, waryng*; Satawal *taipwo*; Truk *warüg*; Namoluk *warung*; Lukunor *warang*; Ponape *katerin*; Pingelap *teeko*.

USES IN ULITHI

An aromatic herb cultivated for leis and medicine. Mixed with turmeric root it is made into a potion for treating diarrhea in a baby.

COMPARATIVE USES

In **Ifaluk** it is used as a poultice on bruises, such as those due to a fall or hurting a leg on a stone, but not for cuts; the leaves are used to make leis and to prepare a medicine; the gods are believed to grow the herb in the sky. In **Truk** it is used for love magic and flavoring meat and fish. In **Namoluk** it is used for leis and to make perfume; it plays a role in love magic; it is sometimes used as a spice with fish and crab soup. In **Ponape** the leaves are used in flavoring soups and as a constituent for hair oil.

SOLANACEAE (Nightshade Family)

Capsicum annuum L. *mükh*

C. frutescens L.

Mogmog I., Lessa No. 95, 1947; det. M. Neal, confirmed by H. St. John in 1951.

VERNACULAR TERMS

English "chili pepper"; Ifaluk *mwech, mwig*; Satawal *amuek*; Puluwat *lonni, mmwiik, yammwiik*; Truk *mwi*; Namoluk *mwik*; Satawan *mwik*; Ant *mwik*; Ponape *sele* (English corruption?); Mokil *chilee* (English corruption).

USES IN ULITHI

The tiny "hot" fruits of this cultivated shrub are used as a condiment.

COMPARATIVE USES

In **Ifaluk** the peppers are used with fish, pig, chicken, and so forth. In **Truk** the pepper was formerly occasionally pounded and eaten on fish and crabs. In **Namoluk** the peppers are eaten, especially with raw fish, and are sometimes included in leis. In **Ponape** there are eight varieties, some wild and others cultivated; chili pepper is very well liked and widely used, being eaten always fresh as a seasoning on yams, breadfruit, and their substitutes, as well as on all protein dishes.

Nicotiana tabacum L. *tomaho*

Mogmog I., Lessa No. 81, 1947; det. M. Neal.

VERNACULAR TERMS

English "tobacco"; Palau *tabaco*; Yap *tamago*; Lamotrek *tùmaho*; Puluwat *suupwa, tamak, rééманaw*; Namonuito *tabák*; Truk *suba* (Fosberg 24650), *suupwa cuuk*; Ant *tamak*; Ponape *tabakar*.

USES IN ULITHI

This herb is cultivated for its leaves, which are dried and smoked as cigarettes. (The local supply has always been insufficient, and so regular trading voyages to obtain the leaves are made to the nearby island of Fais, a raised table reef, where the plant is more easily grown.)

COMPARATIVE USES

On **Fais** tobacco is cultivated in substantial amounts. In **Ifaluk** there are a few small, chlorotic plants but nearly all the tobacco is imported. In **Lamotrek** the plant is consumed in cigarette form by about 90 percent of the population, having been introduced in Spanish times; a great deal of time is spent in its production. In **Puluwat** there is a native variety. In **Truk** native tobacco is still grown. In **Ponape** two varieties of tobacco are grown, one having been introduced during the pre-Spanish period, the other by the Japanese.

Physalia minima L. *pengpeng*

Mogmog I., Lessa No. 92, 1947; det. M. Neal.

VERNACULAR TERMS

Ant *ti.* (Apparent cognates of Ulithian *pengpeng* have been reported in the literature but refer to entirely different species of different families: *pingapin* for *Hernandia sonora* in Ponape [Glassman 1952]; *engapem* and *pengapem* for *Centella asiatica* in Ulithi, 1946 [Fosberg 25439]).

USES IN ULITHI

This herb is used medicinally. Its leaves are used to treat *los*, or large "boils" resulting from injuries to muscles or from certain taboo violations. The fruit is one of the eight fruits used in the "flying fish bundle" offered to the spirits by the public fish magician in his annual ritual.

RUBIACEAE (Madder Family)

Guettarda speciosa L. *iuth*

Mogmog I., Lessa No. 3, 1947; det. M. Neal.

VERNACULAR TERMS

Palau *belou* (Fosberg 25786); Fais *outh*; Woleai *ut*; Eauripik *wut*; Ifaluk *ot, wut, wutu*; Lamotrek *muesor*; Puluwat *mohoŕ*; Namonuito *moser*; Nomwin *mosor*; Truk *mosor*; Namoluk *mosor*; Ant *mohosor*; Ponape *eet, iit, ith*; Mokil *eet*; Pingelap *eles.*

USES IN ULITHI

A small tree whose wood is used for house timber, steering paddles, firewood, and earth ovens. Its flowers are used in leis. The leaves are used as a washcloth for babies. One of its medicinal uses is to give babies suffering from stomachache the juice extracted from its bark. Its parts may be fashioned in any of various ways by women and men to make a *ielsöl*, or love charm, to attract a person of the opposite sex, being worn as a head wreath, neckpiece, or earpiece, or carried in a basket, or even left at home, but its efficacy comes from a magical incantation.

COMPARATIVE USES

In **Fais** the flowers are used for leis. In **Eauripik** the wood is used for canoe paddles; medicine. In **Ifaluk** the flowers are prized for their fragrance and used in leis; flowers and green bark are used for dysentery; the leaves are used to cover

food; the wood is used for house timbers. In **Puluwat** the wood is used for paddles and house construction; the flowers for leis and love magic. In **Nomwin** the flowers are used for wreaths; the wood for house timbers. In **Truk** the wood is used to make bowls. In **Namoluk** the flowers are used for leis; the leaves to wrap food for cooking and to serve as disposable plates, as well as to cover food in an earth oven; the wood is used in building construction, as poles for poling canoes, for fences, as markers to taboo land or reef sections, friction drills to make a fire, and canoe paddles; the bark, flowers, and fruit are used medicinally. In **Pingelap** the flowers are used as ornaments in the hair and to perfume coconut oil; the logs are used to make canoe hulls. In **Ponape** the plant is used to ease the pain of a bruise.

Hedyotis albido-punctata (Merr.) Fosberg *hakhlukh*

Oldenlandia albido-punctata Merrill.

Falalop I., Lessa No. 153, 1949; det. F. R. Fosberg, 1949. Two local varieties are called *hakhlukh ibwol*, if in the swamp garden, and *hakhlukh irut*, if outside the swamp garden. The herbarium specimen is the *hakhlukh irut* variety, having been collected over 200 feet from the beach in coralline soil.

VERNACULAR TERMS

Palau (Angaur I.) *ngesil.*

USES IN ULITHI

A low ascending herb used medicinally.

Hedyotis biflora (L.) Lam. *walemönger*

Mogmog I., Lessa No. 87, 1947; det. M. Neal.

VERNACULAR TERMS

Ifaluk *opusal*; Woleai *gobwusal*; Satawal *opusar*; Nomwin *opuson* (Fosberg 24574); Truk *nisarfönu, opuson, sing* (Fosberg 24658); Namoluk *alou mach*; Mokil *muscen-buel*; Pingelap *musenibuil.*

USES IN ULITHI

An herb used medicinally.

COMPARATIVE USES

In **Ifaluk** it is considered good medicine for a bruise, the crushed herb being put inside a *lēl* leaf, the leaf then being folded and the warm herb pressed on the bruise. In **Namoluk** the entire plant has medicinal uses.

Ixora casei Hance *hachio*

Mogmog I., Lessa No. 1, 1947; det. M. Neal.

VERNACULAR TERMS

English "ixora"; Palau, *terdeo*; Yap *gacheu* (Fosberg 25539), *gachio, gachiou, guchiyou*; Fais *hachio, hachiu*; Woleai *gachio*; Ifaluk *gatriou*; Truk *achen, achiu, atiu* (Fosberg 24624); Namoluk *achiou*; Ponape *kartieu, katiu* (Fosberg 26295), *ketieu*; Mokil *kasaw*; Pingelap *kalesu.*

USES IN ULITHI

A large wild shrub whose wood is sometimes used for adze handles and canoe parts. Its flowers are used in leis. Medicinally its bark and young leaves are used to treat *mathakhil chum*, or headache accompanying certain diseases caùsed by spirits.

COMPARATIVE USES

In **Yap** the flowers are used for garlands worn around the head when dancing; the wood is used for scoop nets in fishing. In **Ifaluk** the flowers are used in wreaths; the stems are used to make wicker baskets and fish traps; the bark of the stem is used as a medicine (for diarrhea?). In **Namoluk** the supple branches are bent into rims for nets made for capturing flying fish; as straight sticks the branches are used by children to play a game called *apis*; the flowers are used in leis; the stem, bark, and flowers are used in medicine. In **Ponape** the roots are used as a hemostatic in menstruation; in former times spears were made from the wood. In **Pingelap** the shrub is cultivated as an ornamental.

Morinda citrifolia L. *lòl*

Mogmog I., Lessa No. 10, 1947; det. M. Neal.

VERNACULAR TERMS

English "Indian mulberry"; Sonsorol *roru* (for var. *bracteata* [Roxb.] Hook, f.); Palau *ngel*; Yap *ma'aluel, maglvel, mangalveg*; Fais *lol*; Woleai *lel*; Ifaluk *lel*; Satawal *leen* (*lān*); Namonuito *nen*; Nomwin *nen* (Fosberg 24578); Truk *nobur* (Fosberg 24663), *nopur*; Namoluk *nin*; Ant *nen*; Ponape *weipwul, weypul, wumpul*; Mokil *wehmpul*; Pingelap *obul*; Kusaie *hi* (Fosberg 26528).

USES IN ULITHI

A small tree whose small fruits are eaten raw and used extensively in soup. Various parts are used for a yellow dye, firewood, house beams, house posts, canoe paddles, and medicines. The leaves are used to make hot poultices applied externally to relieve backache and to treat "bad veins," or *wakh*, said to result from carrying heavy objects. The leaves are also mixed with *Premna integrifolia* leaves to make a hot compress for treating colds and influenza. The fruit is used to treat *talengbwat*, or deafness.

COMPARATIVE USES

In **Sonsorol** the juice of the inner skin of the trunk is squeezed on a cut for three or four days, and after a scab has formed, the shavings of the inner skin may be applied directly to the cut; some young leaves are mixed with the nuts and the shavings of the inner skin of the roots to make a medicine for relieving a pain in the side that is accompanied by difficulty in breathing; young leaves are mixed with the leaves of another plant and pounded to extract a juice to treat a very serious eye injury; to treat swelling of the body, scrapings from a surface root of the tree are wrapped in the leaves, heated, and applied to the swollen area; the leaves are also used to treat stomach pain, backache, and joint pain, and when mixed with three other kinds of leaves are applied to a hard lump that may appear on parts of the body,

such as the wrist. In **Palau** the leaves are used to rub coconut oil into cuts. In **Yap** the plant is used to treat stomach pains. In Fais the ripe fruit is eaten with water and sugar. In **Ifaluk** the tree furnishes house lumber; the fruit is eaten; the leaves are used with other plants for medicines. In **Truk** the tree is used to treat blisters, swellings, diarrhea, and gonorrhea, and to stop infant crying. In **Namoluk** the saplings are used in constructing canoe houses, cook houses, and fences, and to make taboo markers for sections of reef; the wood is used as firewood; the leaves are used as a covering for breadfruit seeds cooked in an earth oven; the roots are ground up to substitute for cosmetic turmeric and to make a red dye; the young branches are used in "forensic" magic, love magic, and countersorcery; various parts are used for various medicines; the fruit is eaten regularly. In **Ponape** the plant produces a red dye; various parts are used to treat "something upside down" in female sex parts, any wounds, and the pain of a bruise; the leaves are used in conjunction with other plants as a cure for rheumatism; the stipules are employed in treating wounds caused by scorpion fish; the terminal buds on abscesses; the inner bark and roots as a hemostatic in menstruation; the young flowers to relieve pains after childbirth; and the young fruit to alleviate pain in heart attacks. In **Pingelap** the natives use the fruit as an edible part and as a medicine.

CUCURBITACEAE (Gourd Family)

Citrullus lanatus (Thunb.) Matsum. & Nakai *sallia*

C. vulgaris Schrad.

Mogmog I., Lessa Nos. 123 and 124, 1948; sight records. Two local cultivars are: 123. *sallia rangrang*, or "yellow watermelon" (small round or elongated fruit with green skin, yellow flesh, and black seeds), and 124. *sallia chacha*, or "red watermelon" (round or elongated fruit with green skin and red flesh). Neither variety, while juicy, is very sweet.

VERNACULAR TERMS

English "watermelon"; Puluwat *saliiya* (from Spanish *sandía*); Truk *sennia*; Ponape *wäsmelen* (English corruption).

USES IN ULITHI

These creepers are grown for their fruits but are only a rare source of food.

COMPARATIVE USES

In **Truk** watermelon is eaten occasionally but does not constitute a regular part of the diet. In **Ponape** three varieties are recognized (one, *kiskin wasmelen*, introduced by the Japanese, may be the same as Ulithian *sallia rangrang*); watermelon is very well liked and is always cultivated rather than wild, but it is eaten only after and between meals.

Cucurbita maxima Duch. *kölòbwäs*

Mogmog I., Lessa Nos. 120–122, 1947; sight record. Four local cultivars are: 120. *kölòbwäs lolai* ("long squash"), 121. *kölòbwäsel Meriken* ("American squash"),

and 122. *kölöbwäsel tutol* ("low squash"). I have seen and often eaten in the field what is called "acorn" or "table queen" squash but neglected to connect it with one of the above varieties.

VERNACULAR TERMS

English "autumn squash," "winter squash"; Yap *galabas* (squash or pumpkin); Ifaluk *kalebwäs*; Satawal *calamasa*; Ponape *pwänkin* (squash or pumpkin). All these Carolinian terms except *pwänkin* are corruptions of "calabash," itself a corruption of Spanish *calabaza*, a word of possibly Arabic origin.

USES IN ULITHI

The fruits of this creeper are cooked and well liked, but although the crops were very extensive in 1947 and 1948–1949, especially on the island of Potangeras, by 1960 they had declined drastically for reasons that could not be ascertained.

Fig. 8. Squash assembled for a take home "feast" to reward participants in a funeral. Numerous rituals serve as distributive mechanisms.

Cucurbitaceae sp. *therus*

Mogmog I., Lessa No. 63, 1947; det. by M. Neal but species could not be determined because of inadequacy of specimen. My field notes read simply: "Vine with small yellow flowers and large melon-like fruit with white pulp and squash-like white seeds."

VERNACULAR TERMS

Yap *dalrus* (a/c Ulithian informant); Woleai *tarus* (a/c Ulithian informant); Ifaluk *tarus* (a/c Ulithian informant).

USES IN ULITHI

A vine whose fruit is simply boiled and eaten, or used in fish soup. (Nowadays the stalk is fried with meat, such as corned beef.)

GOODENACEAE (Naupaka Family)

Scaevola taccada (Gaertn.) Rox. var. **sericea** (Vahl) St. John *lùth*

S. frutescens Krause var. *moomiana* Deg. & Greenw.

Mogmog I., Lessa No. 17, 1947; det. M. Neal originally as *S. frutescens* (Mill.) Krause. A notation made with the specimen by F. R. Fosberg in 1957 reads *S. sericea* (Vahl) Krause. An undated notation made with the specimen by H. St. John reads *S. taccada* (Gaertn.) Rox. var. *sericea* (Vahl). Var. *sericea* has leaves that are fuzzy or pubescent underneath, whereas var. *taccada* has leaves that are glabrous. In the vernacular terms below, except for the English, which refers to the pubescent variety, and for the Namoluk, which refers to the glabrous variety, no distinction has been indicated as to variety, and apparently native usage classes them together.

VERNACULAR TERMS

English "half-flower," "beach naupaka"; Sonsorol *not* (for "Scaevola"); Palau *gorai* (Fosberg 25787); Yap *nath, thoth*; Fais *lath*; Woleai *nụt*; Ifaluk *natu, remag,* also *lat*; Puluwat *nnat* (for "Scaevola"); Namonuito *nöt* or *nŭt*; Nomwin *nat* (Fosberg 24585); Truk *nöt*; Namoluk *net*; Satawan *nüt*; Ant *eenut*; Ponape *inuk* and *ramuk* (Fosberg 26391), *eenut*; Mokil *romok*; Pingelap *raměk*.

USES IN ULITHI

A succulent shrub used for firewood and earth ovens, and medicine. The bark is mixed with water and applied externally in the treatment of yaws. The fruit is one of eight fruits put in the "flying fish boundle" offered to the spirits by the public fish magician.

COMPARATIVE USES

In **Fais** the stems are used medicinally. In **Ifaluk** the pith is dyed and worn around the head at dances; the leaves are used to cover food being cooked on hot stones; the bark of the stem is wrapped in coconut fiber, dipped in water, and squeezed directly into the mouth as an emetic; the flowers are worn in the hair or used for garlands. In **Puluwat** the flowers are used for leis, the seeds for eye medicine. In **Namoluk** the glabrous form provides wood used as poles for poling canoes and in building construction, if the plants are exceptionally tall; smaller branches are cut as markers to taboo sections of reef; flowers are used to make leis; ripe berries, flowers, and white heartwood are used medicinally.

COMPOSITAE (Sunflower Family)

Adenostoma lavenia (L.) Kotze. *habwolebwol*

A. viscosum J. R. & G. Forst.

Verbesina lavenia L.

Mogmog I., Lessa No. 93, 1947; det. M. Neal? (there is no record of the specimen in the herbarium).

VERNACULAR TERMS

Ifaluk *walumarsin*; Satawal *yoelusoek*; Kusaie *manfulful* (Fosberg 26599).

USES IN ULITHI

An herb that is used medicinally.

COMPARATIVE USES

In **Ifaluk** the flowers are used for garlands; the flowers and young leaves are mixed with the leaves of *Ocimum* and *Curcuma* for general ill feeling.

Artemesia vulgaris L. *iärbwas*

Mogmog I., Lessa No. 91, 1947 (Bish. No. 131090); det. M. Neal.

VERNACULAR TERMS

English "mugwort," "wormwood"; Satawal *iarbwas*.

USES IN ULITHI

An aromatic herb used medicinally; its leaves are used to treat *ruph*, a bruise or rash due to injuries from a fall or blow, or to the violation of certain taboos.

Wedelia biflora *eatheuth*

Mogmog I., Lessa No. 84, 1947 (Bish. No. 133429); det. M. Neal, confirmed by F. R. Fosberg.

VERNACULAR TERMS

Woleai *wal*; Ifaluk *yatuyet*; Satawal *atiat*; Puluwat *yatiyat*; Namonuito *adiat, atugat*; Nomwin *atuat* (Fosberg 24581); Truk *atiwöt*; Namoluk *etiet*; Satawan *atuwiat* or *atiut, atuot* or *atuat*; Lukonor *atuut*; Ant *atu-guaht*; Ponape *ingkah*; Mokil *morishish*; Pingelap *kisuwĕll*.

USES IN ULITHI

An herb used to induce conception.

COMPARATIVE USES

In **Namoluk** its leaves are used as a mulch for taro; the entire plant is used in magic to assure that a canoe will not come apart at sea; it is also used in medicine.

Zinnia elegans Jacq. (no vernacular name)

Mogmog I., Lessa No. 101, 1947 (Bish. No. 133568); det. M. Neal, confirmed by F. R. Fosberg.

VERNACULAR TERMS

English "zinnia."

USES IN ULITHI

An ornamental herb.

Undoubtedly, several species are lacking in this Ulithian listing, particularly among the Gramineae and Cyperaceae, but there is no reason to believe that any plants of much consequence have been overlooked. It is interesting to note the complete absence of bamboo, which either grows poorly or not at all in atolls, in this instance being imported from Yap. Apparently also absent in the atoll are

any species of mangrove. On the other hand the areca palm, betel pepper, and squash are present, and so are other species infrequently or not at all reported for any of the Caroline Islands, least of all atolls: *Rhoeo spathacea* (recent introduction), *Alpinia purpurata, Amaranthus hybridus, Cassia sophera, Melia azerdarach, Phyllanthus marianus, Melochia compacta, Thevetia peruviana, Callicarpa erioclona* var. *paucinervia, Ocimum basilicum, Physalia minima, Hedyotis albido-punctata, Artemesia vulgaris,* and *Zinnia elegans* (recent introduction?).

Table 1. Traditional Uses for Ulithian Plants

Uses	No. species
Medicine	61
Food	26
Body ornaments, cosmetics, grooming	24
Magico-religious paraphernalia	20
Canoe parts and accessories	18
Firewood, earth ovens	18
House construction	16
Tools and utensils	11
Fishing apparatus	7
Weapons (chiefly ritualistic)	7
Weaving apparatus	6
Cordage and lashing	5
Hauling devices	5
Ornamental plants	5
Clothing	3
Food covers and wrappers	3
Pigments, dyes	3
Stimulants and narcotics	3
Condiments and spices	2
Fodder	2
Plaited products (baskets, sails, etc.)	2
Unfermented drinks	2
Miscellaneous	6

Table 1 summarizes the ways in which Ulithians have traditionally made use of their plants, the total exceeding of course the 95 species reported because most plants have plural uses. It is clear that the people exploited their flora as fully as their resources and technological knowledge permitted. Only *Chloris inflata* and *Pilea microphylla* did not have some sort of expressed value, but one of these two is a recent introduction by the U.S. Navy. The numerous plants believed by the islanders to have medicinal value should not be surprising; they reflect an area of concern over which the people exercised little empirical control. In order to cope with illness the natives pressed about two-thirds of their plants into service, including many that ordinarily would otherwise be considered to be lowly weeds. To buttress this effort they tried often to endow the plants with added efficacy through the use of magical incantations and rituals, usually performed by a trained healer,

or *chai.* As for the food plants, these were sufficient to meet the nutritional requirements of the community, except where such natural catastrophes as typhoons, marine inundations, and extended droughts intervened. Despite the large number of plants that have some nutritional value, there was in practice a certain monotony in the diet because most of these plants furnished no more than seldom or occasionally eaten fruits and nuts. Fish and other marine fauna did offer some variety, but the two domesticated animals, the pig and chicken, on account of their small numbers did not.

Despite their great resourcefulness in utilizing their plants, special ingenuity and inventiveness should not be attributed to Ulithians. The comparative materials that have been offered in conjunction with the Ulithian data are reminders, should one be inclined to overlook it, that even before the intrusions of the modern world the people of the atoll did not live in isolation. They shared in a common pool of culture with most of the Caroline Islands, especially the atolls. It will be noticed that virtually all of the applications made of the plants, as well as their vernacular names, are found on one or more other islands, Ifaluk and Namoluk being good examples. One would be hard put to find a single instance of a local origin for a plant's use. This is not to deny, however, that Ulithians have not had an intimate knowledge of their flora. They have been able to name, describe, and classify them in a manner that should command the respect of professional botanists. The reason is simple. They always had to depend almost wholly on their immediate environment for sustenance, shelter, and transportation, as well as numerous expressions of emotional and ideational feelings, so they maintained an intimate association with it and passed on their accumulated knowledge from generation to generation.

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