Ethnobotany of Tokelau: The Plants, Their Tokelau Names, and Their Uses[1]

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Three research trips were made to the Tokelau Islands (including Swains Island), located north of Samoa in Western Polynesia, and a collection of the flora of the islands was made. At the same time, Tokelauan informants were interviewed about native names and uses of plants found there. This information was augmented by a literature review, by data on plant specimens stored at the Bernice P. Bishop Museum, and by interviews with other Tokelauans now living in Samoa. From this information, an account of Tokelauan plant names and their ethnobotanical uses was compiled.

The increasing westernization of the indigenous cultures of the Pacific Islands has resulted in a decreasing dependence of these cultures on the plants and vegetation in their environment. A major consequence of the changes wrought by contact with the West has been an increasing reliance on imported food (such as rice, flour, and canned goods) and the concomitant decline of native agriculture. With the pervasive dependence upon Western clothing, materials, and fibers, native uses and knowledge of traditional plants also decline.

Since the Western material culture has brought many benefits to the islands, its spread throughout the area is not to be regretted in the larger context. In many cases, however, its new dominion is so complete that even the names of some of the native and aboriginally introduced plants have been forgotten. This is an unfortunate situation, because plant lore is an important part of the heritage of a culture. Such lore is also important because some day these plants and the particular ways in which they are utilized may once again be needed. In some cases this loss of lore is irreversible, but often it is retrievable—many of the older people still recall the names and uses of many plants.

With this purpose in mind—to record the ethnobotany of Tokelau—I initiated this project. The following paper can by no means by considered to be the definitive word on all the ethnobotany of Tokelau. It is merely the first few steps—the recording and identifying of Tokelau plant names and describing the more salient uses of the plants. It is one of three completed studies in a program of ethnobotanical research (see Whistler 1984, for Samoa, and Whistler n.d., for the Cook Islands). It is hoped that these studies can lay a groundwork for ethnobotanists and anthropologists to continue with more detailed studies of plant uses before it is too late.

TOKELAU

The islands

Tokelau consists of three atolls lying about 300 miles (480 km) north of Samoa at a latitude of 8–10°S and a longitude of 171–173°W. Swains Island, situated 100

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miles (160 km) to the south at 11°S and 171°W, although politically a part of American Samoa, is geographically and floristically a part of Tokelau. In fact, most of the inhabitants of Swains Island (fewer than 2 dozen) are Tokelauans. Because of these factors, and because of the ethnobotanical similarities between Swains and Tokelau, all four islands are considered as a single unit in this paper; Swains Island will henceforth be referred to by its Tokelauan name, Olohega.

Tokelau is an incorporated territory of New Zealand, and its inhabitants (about 1,600) are citizens of that country. New Zealand is responsible for Tokelau's external affairs, while internal affairs are handled by the Tokelauans themselves from their office in Apia, Western Samoa. More Tokelauans (over 2,500) live in New Zealand than in Tokelau.

The three Tokelau Islands are typical atolls with a large central lagoon surrounded by an intermittent chain of sandy islets known as motus. The largest of the atolls is Nukunonu, with a land area of approximately 260 ha; the second largest is Faka'ofo, with 250 ha; and the smallest is Atafu, with 205 ha (Balazs 1983). Olohega, with an area of about 210 ha, is not a typical atoll because instead of a central lagoon it has a landlocked brackish water lake in the center.

The people

The people of Tokelau are Polynesians, with strong affinities to the atoll people of Tuvalu to the west, to the Northern Cooks to the east, and to the Samoans to the south. In the oral traditions of the Tokelauans are accounts of an earlier people who were driven from the islands by invaders (Macgregor 1937), but both of these groups are Polynesian. Tokelau became known to the Western world when it was first sighted by Lord Byron in the *H. M. S. Dolphin* in 1765, but it was not until the mid-19th century that the European influence started to exert itself with the arrival of Christian missionaries from the London Missionary Society and the Roman Catholic Church. In the 1860s, the islands were depopulated by epidemics that decimated the susceptible inhabitants, and by the "blackbirders" who kidnapped Tokelau men to work in the phosphate mines of Peru. There is also a noticeable Portuguese heritage in Tokelau, originating from a Portuguese ship that was wrecked there in the 1870s. Nowadays, names like Pedro, Perez, and Pereira are common among the Tokelauans.

The language

The Tokelauan language is also typically Polynesian, and like the other Polynesian languages, had no written form prior to the advent of the Europeans. It contains five vowel sounds (written as *a, e, i, o,* and *u*), and ten consonants (written as *f, g* [pronounced as an *ng*], *h, k, l, m, n, p, t,* and *v*). The *f,* however, is pronounced like *wh,* and the *h* was formerly written as *s* (by Macgregor [1937] and others). Additionally, a glottal stop (') marks where a letter has been lost from the language. The pronunciation stress is usually on the penultimate syllable; when elsewhere, it has often been marked here with a dash above the stressed vowel. Since Tokelau is now administered from the Office of Tokelau Affairs located in Western Samoa, there has been a recent increase in cultural and linguistic influence on the Tokelauans by Samoa. Most Tokelauans can also speak Samoan, since their Bible, their sermons, and the radio broadcasts reaching the atolls are in Samoan. This

linguistic influence of Samoan is particularly strong in the names of the plants, since many of the recently introduced species have entered Tokelau along with their Samoan names.

The flora and vegetation

Most of the motus of Tokelau and Olohega are covered with dense groves of coconut palms. On some motus with less disturbance, or in areas where coconut plantations have been neglected for a long time, littoral forest dominates. The most common species are *Cordia subcordata, Guettarda speciosa, Hernandia nymphaeifolia,* and *Pisonia grandis.* On the margins of the littoral forest, *Pandanus tectorius* and *Tournefortia argentea* prevail. In open scrubby vegetation, the dominant species are *Pemphis acidula* and *Scaevola sericea.* Within the shade of the forest, the dominant understory plant is usually the bird's-nest fern, *Asplenium nidus.*

The flora of Tokelau consists of about 35 native species and about 48 weedy or naturalized species. Specimens were collected by me on three trips; they are in my personal collection deposited at the Pacific Tropical Botanical Garden (PTBG), with duplicates of many of them at the Bishop Museum (BISH), Smithsonian (US), and Berlin (B).

Almost all of the native species are or were utilized in some way. Based upon how they are or were used, the plants can be divided into several categories—food plants, timber plants, fiber plants, ornamentals, medicinal plants, and miscellaneous. These categories are non-exclusive because some species are important in more than one of them. The main food plants are mostly root crops (predominantly *pulaka*) and fruit trees (screwpine, breadfruit, bananas, coconut, and papaya). *Pulaka,* a giant aroid, is cultivated in swampy pits excavated in the center of the sandy motus. Timber plants (mainly *Calophyllum inophyllum, Cordia subcordata, Guettarda speciosa,* and screwpine) are used for house (*fale*) construction, tool handles (like *kau toki,* an adze handle), carved items such as bowls (*kumete* and *tanoa*), watertight fishing boxes (*tuluma*), drums, and gongs (*pate*), and for making plank canoes (*vaka*). They are also commonly used as firewood.

The fiber plants, mainly coconut and pandanus, are used for weaving mats (*fala* and *moega*), hats (*pūlou*), fans (*ili*), baskets (*'ato*), and formerly for men's loin cloths (*malo*) and women's skirts (*titi,* forms of which are still used in dancing). Ornamentals are used for decoration around houses and for leis (*hei* and *fau*). Numerous plants are used medicinally, and a study of Tokelauan herbal medicine is yet to be done. The miscellaneous category of plants includes species used for dyes (like *Morinda citrifolia*), soap (like *Triumfetta procumbens*), and toys.

METHODOLOGY

I made three visits to the islands over the last 11 yr. The first trip was to Olohega in May 1976 when I spent 4 da there collecting plants and interviewing the inhabitants (Amerson et al. 1982). A second trip was made to the islands in August 1980, when I visited the three main Tokelau Islands and spent 10 da on Faka'ofo. The third trip was in November 1985, when 4 da were spent on Atafu.

The first two visits were oriented more towards the flora, but before the third

one, I compiled a checklist of Tokelauan plant names and uses based on the works of Macgregor (1937), Parham (1971), and Whistler (1981, 1983), and to a lesser extent, Anonymous (1974), Burrows (1923), Hale (1968), and Pickering (1876). Informants were interviewed with this checklist in hand; based on the information obtained, the list was enlarged and refined. On a subsequent trip to Samoa in July 1986, I interviewed more informants by using a draft copy of the present paper. For comparative purposes, the works of Besnier (1981), Koch (1983), and Ranby (1980) from Tuvalu; Whistler (1984) from Samoa; Whistler (n.d.) from the Cook Islands; and Whistler (1987) from atolls in general were consulted.

PLANT NAMES

The following names are arranged in alphabetical order, and are always in boldface. At the end of the list is an alphabetical index to scientific names of the plants, as well as one for plant families and one for uses of the plants.

(1) **Ateate**—*Laportea ruderalis* (Forst. f.) Chew, Urticaceae, an aboriginally introduced herb common as a weed of disturbed places and edges of the pits where *pulaka* is grown. The name appears to be unique and is unlike the plant called by the same name in Samoa. The crushed plant is reportedly used as a remedy for rashes (*mageho*). *Whistler 4647,* PTBG.

(2) **'Aute**—*Hibiscus rosa-sinensis* L., Malvaceae, the red ornamental hibiscus cultivated for its showy flowers used in leis and decorations. Probably a recent introduction from Samoa, where it is called by the same name. Parham reported a *Hibiscus* × *archeri* Wats. from Tokelau, but I have not seen it, although there is reportedly an "orange" variety of hibiscus cultivated on Nukunonu.

(3) **'Ehi**—*Carica papaya* L., Caricaceae, the cultivated papaya tree introduced from Samoa, where it is called by the cognate *esi.* It is the only commonly cultivated fruit tree in Tokelau; the sap, roots, and fruits are occasionally used in native medicines. The leaves are used for covering the *umu* (earth oven) to keep heat in, for tenderizing meat, and for washing black clothes. According to Macgregor (1937), who spelled the plant's name as *esi,* the hollow petioles were made into flageolets (*fagufagu*).

(4) **Elefane**—The Olohega name for *Delonix regia* (Boj.) Raf., Leguminosae, the introduced and occasionally cultivated flamboyant tree not found elsewhere in Tokelau.

(5) **Fai**—*Musa* × *paradisiaca* L., Musaceae, the introduced banana cultivated in compost pits for its edible fruits. The leaves are used to cover the *umu* (earth oven), for serving food on, and, when dry, to wrap dry grated coconut, which is cooked with *kaleve* (toddy) to make a dish called *puleleti.* The dry leaves are also used as cigarette paper for wrapping Samoan tobacco (*fili*). The plants were probably brought in from Samoa, where they are called *fa'i.* Several varieties are recognized:

Pata—The Cavendish banana called by the same name in Samoa.

Misiluki—The ladyfinger banana, called by its Samoan name.

Faikekehu—A sweet, brown variety of banana eaten raw rather than cooked. This may also be known as *fai palagi,* indicating its recent introduction to Tokelau. In Samoa it is apparently called *pata vai.*

(6) **Fala**—*Pandanus tectorius* Park., Pandanaceae, several indigenous and aborig-

inally introduced varieties of screwpine. They are nearly as important to the Tokelauans as the coconut, with nearly all parts of the plant being utilized for something. The sweet, juicy, orange fruit segments called phalanges or keys (*fala,* or called *penu* when the pulp is removed) are commonly eaten raw as a snack by people of all ages (Fig. 1). The pulp sliced from the phalange (Fig. 2) is also utilized in a number of dishes: (1) the crushed pulp (*fala tukituki*) in water is boiled to make a puree; (2) the sliced pulp is boiled to make *huahua fala*; (3) the sliced pulp is cooked with coconut cream, sometimes thickened with *tāmu* or starch, to make *lolo fala,* or if the slices were previously dried in the sun, *lolo fala fakapita*; and (4) the sliced pulp mixed with coconut water and grated coconut or coconut cream is boiled to make *niu heoheo* (also called *heoheo mata*). When the sliced sections of *fala* are wrapped up in *lau mea* leaves, cooked, and then dried in the sun, the resulting preserved food is called *fala fakapita* and can be stored for further use.

The small seeds (*fugafuga*) within the phalanges are sometimes eaten by children and have often been used as a famine food. The stalk or receptacle upon which the keys are attached (*fune fala*) is inedible for humans, but is fed to pigs.

The wood is also commonly used in the construction of native houses. The trunk and branches are peeled and used for the house perimeter (*palepale*), principal rafters (*kaho matua*), upper purlins (*haeloa*), and "tie beam plates" (*hahaga*), but not usually for posts since the wood does not last long in the soil. The woody aerial roots are also utilized—the fibrous core is sometimes eaten when nothing else is available, and jump ropes can be made from the longer ones. The tips of these aerial roots are also used to make medicines for a variety of ailments.

The most useful parts of the plant, however, are the leaves. Dry leaves of any of the varieties are gathered, run over a stick to break the midrib, and rolled around another stick to form a disc-shaped roll, which can be stored until needed. These rolls are then used to make thatch for native houses by folding a series of them over a coconut leaf midrib (*kaho*) and pinning them with a thin stick made from a split coconut midrib (*tuāniu*). For making mats, the green leaves are cut off the plant and dried over a fire. The thorny margins are removed by using a coconut husk fiber tied around the thumb and finger and pulling this along just inside the leaf margin (Fig. 3). To straighten them, the leaves are run across the sharp edge of a tin can. The leaves are then further dried (*fakalā*) in the sun and wound into a roll (*takai lau*) for storage. When needed, the dried leaves are cut into strips of equal width on a board (Fig. 4) with protruding metal blades (*kuku*) and are used for weaving mats (Fig. 5), baskets, bags, and hats. The leaves are also commonly used for cigarette paper (Fig. 6). Macgregor (1937) also noted the leaves being woven into a mat that is folded over and filled with coconut fibers to make a pillow (*'aluga*), one which is very hard (Anonymous 1974). According to one source, dried herbs were also used as filling.

The tiny, fragrant, white, staminate flowers (*higano*), borne in dense inflorescences (*fua higano*), are used for making garlands and for scenting coconut oil. *Pandanus* is called by the same name in Samoa and Tokelau, and likewise or by cognates throughout the rest of Polynesia.

Fig. 1-4. **Fig. 1.** Girl eating one of the large edible varieties of *Pandanus*. **Fig. 2.** The pulp of the *Pandanus* phalanges being sliced for cooking. **Fig. 3.** Thorny edge of *Pandanus* leaf being removed by use of a coconut husk fiber. **Fig. 4.** Tool used to cut *Pandanus* leaves into even strips.

Fig. 5-6. **Fig. 5.** Woman weaving *Pandanus* leaves into a coarse mat. **Fig. 6.** *Pandanus* leaf epidermis used for cigarette paper.

Many varieties of screwpine are recognized, and most of these are well known on all the atolls. These varieties are propagated by stem cuttings because plants developing from seeds are usually useless, approximating the wild types (*fala vao*). I recorded the following varieties:

'Afa paogo—Known from some of the atolls.

Alai—Well known on all the atolls.

Elihe—The most common cultivated kind, also called Lalo, the aboriginal name for *Elihe,* which means Tuvalu (formerly called the Ellice Islands).

Faka'akau—Well known on all the islands.

Fua higano—The staminate tree.

Havane—Well known on all the islands.

Hei 'o le gatu—A name recorded only on Atafu.

Kai—Well known on all the islands.

Logi—Noted on Faka'ofo by a single source.

Maga talo—Noted from Faka'ofo by a single source.

Makoi 'o Foua—Recorded only on Faka'ofo. This may be one of the other varieties, since the name literally means "favorite of Foua." This may also be called *makoi 'o Hoa.*

Mata'atu—Well known on all the islands.

Palepua—Recorded only from Faka'ofo.

Paogo—Well known on all the islands.

Patuki—Little known on most of the islands.

Tinae ta'iva—Little known on most of the islands.

Tinakaleve—Well known, introduced from Tuvalu, where it was also recorded by Besnier (1981).

Tinatina—Well known, introduced from Tuvalu; also recorded by Besnier (1981).

Vaelakia—A variety recorded from Atafu. Literally, the foot of a *lakia* (a seabird).

Vaetakupu—A variety recorded from Nukunonu and Atafu. Literally, the foot of the *takupu* (a seabird).

Vao—Any variety judged not to be palatable, or, according to one source, all the recognized varieties other than *elihe, tinakaleve,* and *tinatina,* which are known to be introduced. *Vao* in this sense means something like "weedy."

(7) **Fale 'o te kimoa**—*Psilotum nudum* L., Psilotaceae, an indigenous fern-ally occasional on trunks of coconut palms. The plants are sometimes used for making leis, for mulch, and for native medicines. Literally, "house of the rat."

(8) **Fale 'o te kimoa**—*Vittaria rigida* Kaulf., Vittariaceae, a small strap-shaped fern uncommon as an epiphyte on Olohega and Nukunonu.

(9) **Fao**—*Neisosperma oppositifolia* (Lam.) Fosberg & Sachet, Apocynaceae, an indigenous tree occasional to uncommon in the littoral forest of three of the islands. The seeds are reportedly eaten, and the wood is sometimes used to make adze handles and in house construction. Called by the same name in Samoa and Tuvalu. Also called *pulu fao.*

(10) **Fāteine**—The Olohega name for *pate,* and probably unique to that island. Literally, "four women." *Whistler 3385,* PTBG.

(11) **Fau**—*Pipturus argenteus* (Forst. f.) Wedd., Urticaceae, an aboriginally introduced or indigenous tree, uncommon in sunny places away from the shore. The inner bark fibers are very useful for making a fine cordage for tying up bonito hooks (*pahihiatu*) and for making fishing line (*uka*) and nets (*kupega*). These uses have mostly disappeared now, except for use as cordage connecting the hook to the line used in deep-sea fishing. Macgregor (1937) also noted the use of the fiber to tie the navel of a newborn baby. The use of the bark for cordage is reported from Samoa, Tonga, and elsewhere in Polynesia. The small white fruits are sometimes eaten by children. In Samoa, the tree is called *soga* or *fau soga. Whistler 4656,* PTBG.

(12) **Fau**—*Hibiscus tiliaceus* L., Malvaceae, the beach hibiscus tree uncommon in disturbed sunny places on Olohega; probably of recent introduction from Samoa, where it is called by the same name.

(13) **Fetai**—*Cassytha filiformis* L., Lauraceae, an indigenous, leafless, parasitic vine, common growing on shrubs and vines on shores. The sap from the stems is commonly used as a shampoo and hair conditioner, the stems themselves for weaving head leis (*pale*). The stems are also reportedly sometimes used in cooking and in native medicines. The fruit is occasionally eaten by children. Probably called by the same name in Samoa, but little known there; called *tainoka* in the Cook Islands and *taino'a* in Tahiti. Spelled *fatae* by Macgregor (1937). *Whistler 4614,* PTBG.

(14) **Fua polopolo**—See *polo.*

(15) **Fue**—*Ipomoea macrantha* Roem. & Schult., Convolvulaceae, an indigenous littoral vine occasional in the littoral forest, but sometimes becoming a pest in plantations, where it may climb over low vegetation and up trees. The sap from the stems is sometimes used in native remedies for sores (*pou*) and rashes (*mageho*). Literally, "vine"; *fue* or cognates of this are used throughout Polynesia for the same meaning. Probably called the same name in Tuvalu. Spelled *fui* by Macgregor (1937).

(16) **Futu**—*Barringtonia asiatica* (L.) Kurz, Barringtoniaceae, the fish-poison tree uncommon in the littoral forest of all the islands. Unlike in the rest of Polynesia, the fruit is not employed as a fish poison, nor is any other use, other than occasional inclusion in native remedies, reported in Tokelau. On Atafu, the tree is commonly believed to be inhabited by ghosts. Called by the same name in Samoa and Tuvalu, and by this or cognates of this throughout Polynesia.

(17) **Gagie**—*Pemphis acidula* Forst. f., Lythraceae, a small indigenous tree common to abundant on the edges of littoral forest, particularly on areas of coral substrate. The extremely tough wood is used to make sharpened coconut-husking sticks (*koho*), food pounders (*tukituki*), fish clubs (*hiki*), outrigger struts (*tutuki*), large hooks (*pā*) for catching the oil fish or *Ruvettus* sp. (*palupo*), short-line fishing poles for catching *uli* (a kind of fish) woven fish traps (*faga*), and, nowadays, handicrafts. It is also valued as firewood. The scraped bark yields a red dye, long used to color bark strips of *kanava* and leaf strips of *Pandanus* in mats, fans, etc. This red color may also account for the use of the root scrapings mixed with coconut water in treating an ailment called *hana toto* (bloody stools). Called by the same name or its cognates throughout Polynesia. *Whistler 4618,* PTBG.

(18) **Gahe**—A name recorded by Macgregor (1937) (as *nase*) for *Eleusine indica* (L.) Gaertn., Gramineae, a weedy grass, but not substantiated by any other source. However, since there is a *gahe vao* (literally, *gahe* of the bush), there logically should be a *gahe* as well.

(19) **Gahe vao**—*Procris pedunculata* (Forst.) Wedd., Urticaceae, an indigenous epiphytic or terrestrial herb uncommon to occasional in the littoral forest. Its red, strawberry-like fruits are eaten when found, but are not actively harvested. Spelled *nasevau* by Macgregor (1937). *Whistler 4613,* PTBG. Called *matavao* on Olohega.

(20) **Gahu**—*Scaevola sericea* Vahl, Goodeniaceae, an indigenous littoral shrub common to abundant on the shores and in sunny inland clearings. The soft wood of the stems is used for rafter sticks (*kaho*) and net handles, and, when hollowed out, for children's popguns (*fana pā*). The pith from the stems, called *toitoi,* is sometimes strung into leis, as are the flowers. The fruits are eaten by pigeons (*lupe*), or fed to them when they are kept as pets, and are occasionally used in native remedies for ailments such as skin sores (*pagi*). When nothing else is available, the young leaves (*moemoe*) are sometimes fashioned into lures to catch bait fish. Also called *gahu* (or *gasu*) in Tuvalu, and cognates of this over much of Polynesia other than Samoa. In Samoa it is called *to'ito'i,* a cognate of the Tokelauan name for the pith. Spelled *ngasu* by Macgregor (1937). *Whistler 4611,* PTBG.

(21) **Hei 'a Matatia**—*Euphorbia cyathophora* Murr., Euphorbiaceae, an herb with red at the base of upper leaves, casually cultivated and escaping on Faka'ofo, where it was reportedly introduced from the Phoenix Islands by the father of a man named Matatia. *Whistler 4622,* PTBG.

(22) **Hulu**—Another name for *kie,* or more correctly, its dried leaves. Probably the same as the *hulu* cited by Besnier (1981) from Tuvalu.

(23) **Kaka lagi**—An unidentified, brown, stinkhorn fungus with a strong sweet fragrance, sometimes used in leis.

(24) **Kanava**—*Cordia subcordata* Lam., Boraginaceae, an indigenous or perhaps

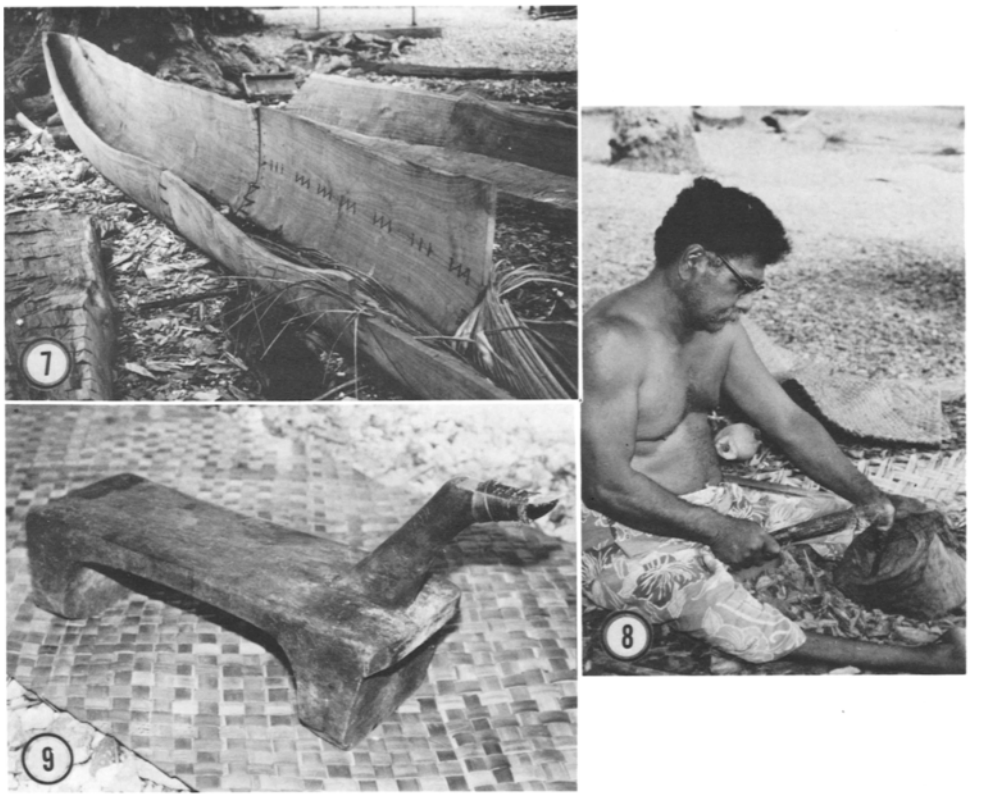

Fig. 7-9. **Fig. 7.** Planks of *Cordia subcordata* wood being fashioned into an outrigger canoe. **Fig. 8.** Wood craftsman making a *tuluma* (fishing box) out of *Cordia subcordata* wood. **Fig. 9.** Stool made from *Cordia subcordata* wood used to hold coconut scraper.

aboriginally introduced tree common to occasional in the littoral forest. *Kanava* provides the finest wood (*taiuli*) in Tokelau, which is commonly used to make plank canoes (Fig. 7), fishing boxes (*tuluma*) (Fig. 8), house posts, cooking utensils including the four-legged stool with a coconut grater attached (Fig. 9), handicrafts of all sorts, and many other items including large drums, according to Macgregor (1937). Strips of the inner bark, which have been soaked in seawater for 3–4 da (about a month, according to Macgregor [1937]), are fashioned into dance skirts, hats, fans, baskets, leis, and, in former times, the *malo,* which was the standard dress of men. Also in former times, the stems were hollowed out and used to make flageolets (*fagufagu*), but for this use it has been replaced by the introduced papaya. The showy orange flowers are used to make leis, and children use them as mock trumpets, and sometimes suck on them for the sweet nectar within. The small seeds are edible, but eating them in times other than during famine is mostly an activity of children. A brown dye is sometimes obtained from the roots, and various parts of the tree are employed in making native remedies for a number of ailments. Two varieties of the tree are recognized, the common one with orange flowers, and a less common one with pink flowers, which I did not see. Called by the same name in Tuvalu, and *tauanave* in Samoa.

(25) **Katuli**—An unidentified herb, possibly *Portulaca oleracea* L., Portulacaceae, or *P. samoensis* von Poll. (which are called *tamole* by some people), *Sesuvium portulacastrum* (not reported from Tokelau), or *Boerhavia repens* (not reported from Tokelau). Macgregor (1937) identified it as *Portulaca quadrifida,* another species not recorded from Tokelau, but in Tahiti and Tubua'i, the cognate *'aturi* refers to species of *Portulaca,* as does *katuri* on Penrhyn. On the other hand, in Samoa, *ufi 'atuli* refers to *Boerhavia repens,* and *katule* on Niue refers to the same. The name also refers to an unidentified plant in Tuvalu. *Katuli,* uncommon now, was formerly eaten.

(26) **Kautokiaveka**—*Hedyotis romanzoffiensis* (Cham. & Schlecht.) Fosb., Rubiaceae, an indigenous shrub uncommon on sunny margins of the littoral forest. Its fruits are sometimes gathered and used in making leis. *Whistler 4615,* PTBG.

(27) **Kie**—Apparently *Pandanus spurius* Miq. cv. 'PUTAT', Pandanaceae, a sterile species of screwpine commonly cultivated on Nukunonu and recently introduced to Atafu. Its dried leaves (called *hunu* or *kiekie*) are commonly used for making mats, hats, and other handicrafts, and, in prehistoric times, to make the men's fringed kilt (*malo*) and women's skirt (*titi*). The plant is sometimes called *kiekie.*

(28) **Kumala**—*Ipomoea batatas* (L.) Lam., Convolvulaceae, the sweetpotato introduced from Samoa, uncommon or perhaps now lost, cultivated for its edible roots. Called *'umala* in Samoa, and by cognates of this throughout Polynesia.

(29) **Lau maile**—*Phymatosorus scolopendria* (Burm. f.) P. Serm., Polypodiaceae, an indigenous fern common to abundant as an epiphyte and terrestrial plant in the littoral forest. The leaves are often used for decoration of houses and for making leis (*fau*). Coconut oil mixed with the crushed leaves is commonly applied to cuts (*lavea*), infections (*pou*), and swellings (*fula*), while the roots are also used in remedies for a number of other ailments. Called *maile* in Tuvalu, and by this name or its cognates in much of the rest of Polynesia. Called *maile* by Macgregor (1937).

(30) **Lau maile kimoa**—*Nephrolepis hirsutula* (Forst. f.) Presl, Davalliaceae, the sword fern indigenous or of early European introduction. The fronds are sometimes used for leis, house decorations, and mulch. Literally, "rat's *lau maile.*" In Tuvalu, Besnier (1981) listed an unidentified plant as *laukimoa*; this may be the same species. Also called *maile kimoa. Whistler 4655,* PTBG.

(31) **Lau mea**—*Asplenium nidus* L., Aspleniaceae, the indigenous bird's nest fern abundant as an epiphyte and terrestrial plant in the littoral forest. The fronds are used for wrapping food cooked in the *umu* and to serve food upon. The curled tips of the fronds (*lū*) are cooked in coconut cream, a process called *loloi. Whistler 5753,* PTBG. Incorrectly called *pupu* in the Tokelauan dictionary (Office of Tokelau Affairs 1986).

(32) **Lau talotalo**—*Crinum asiaticum* L., Amaryllidaceae, the crinum lily introduced from Samoa, where it is called by the same name. The variety in Tokelau has yellow leaves and is common as an ornamental. The membrane at the base of the leaves is commonly applied to boils (*fakafoa*), and the leaves are sometimes employed in other native remedies, as well as being used for making dance skirts. The flowers are used for decoration. Also called *talotalo.*

(33) **Lau tamatama**—*Achyranthes velutina* H. & A., Amaranthaceae, an indigenous shrub with sharp fruits that stick to clothing and feathers; uncommon in open

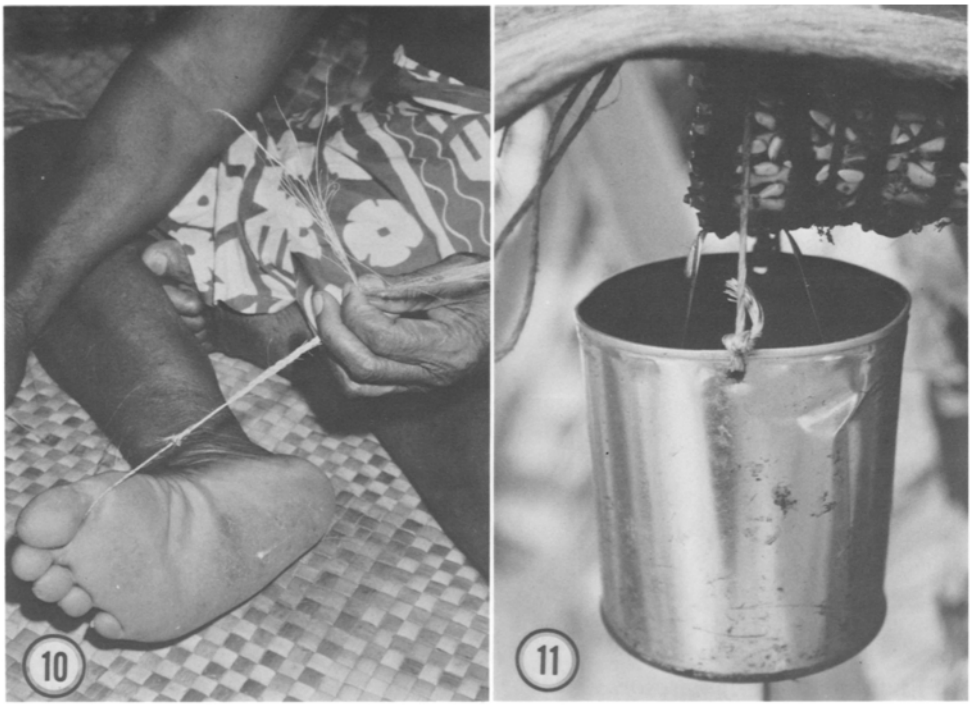

Fig. 10-11. **Fig. 10.** Coconut husk fibers being braided into cordage. **Fig. 11.** Tin can used to collect sap (toddy) from a coconut inflorescence.

places and thickets. The leaves, heated over a fire, were formerly applied to superincision (the technical term for the Polynesian form of circumcision) wounds, a practice reported from both Tonga and Samoa. Also called *vao tuitui,* by people who do not know its real name, and often shortened to *tamatama. Whistler 4649,* PTBG.

(34) **Lau ti**—*Cordyline terminalis* (L.) Kunth, Agavaceae, the ti plant introduced from Samoa, where it is called by the same name. It is only occasionally cultivated in Tokelau as an ornamental, and the leaves are apparently used to cool the forehead in a medicinal practice common throughout Polynesia.

(35) **Lili**—*Zephryanthes rosea* (Spreng.) Lindl., Amaryllidaceae, the pink zephyr lily common in grassy areas of Etena, Olohega, where it is also called *suisana.* The name and plant are probably both from Samoa. Literally, "lily."

(36) **Lopā**—*Adenanthera pavonina* L., Leguminosae, a tree with edible red seeds, introduced to and occasionally growing on Olohega, and formerly on Atafu. It was probably brought in from Samoa, where it is called by the same name.

(37) **Mago**—*Mangifera indica* L., Anacardiaceae, the introduced mango tree uncommon in cultivation on the islands. It was probably brought in from Samoa, where it is called by the same name.

(38) **Mahiku**—*Ludwigia octovalvis* (Jacq.) Raven, Onagraceae, an introduced weed of *pulaka* pits on Olohega and Faka'ofo. There are, however, differing opinions as to just what *mahiku* is, and one Nukunonu man pointed out another weed,

Vernonia cinerea (L.) Less., Compositae. The term may, therefore, be general for weed or herb, and is possibly a cognate for *mau'u* or *mauku* used in much of Polynesia. This is supported by Parham's (1971) use of *mahiku toga* for *Lepturus repens.* The leaves of *mahiku* are reportedly sometimes used in native medicines. *Whistler 4643,* PTBG.

(39) **Mahoā**—*Tacca leontopetaloides* (L.) O. Ktze., Taccaceae, the indigenous or possibly aboriginally introduced plant occasional in littoral forest and sunny disturbed places. The rhizome was formerly harvested, scraped, soaked, and then rinsed to remove a poisonous principle. The resulting starch that settled out was used as a thickener for certain foods. Called *mahoa'a* in Tonga and *masoā* in Samoa and Tuvalu. Spelled *mahoa* by Parham (1971).

(40) **Maile likiliki**—The Faka'ofo name for *lau maile kimoa,* according to one source.

(41) **Makalita**—*Zinnia elegans* Jacq., Compositae, the introduced zinnia occasionally cultivated around houses for its multicolored flowers. Brought in from Samoa, where it is called by the same name.

(42) **Mata vao**—The Olohega name for *gahe vao.*

(43) **Mati**—*Ficus tinctoria* Forst. f., Moraceae, an indigenous or aboriginally introduced tree occasionally cultivated in villages and found in disturbed forest and plantations. The fruit is sometimes cooked in coconut cream and eaten; when mixed with the juice from pandanus roots, the fruit produces a red dye. The bark was reportedly formerly woven into fishing nets. Called by the same name throughout its Polynesian range. *Whistler 4620,* PTBG.

(44) **Mautofu**—*Sida rhombifolia* L., Malvaceae, and *Stachytarpheta urticifolia* (Salisb.) Sims, Verbenaceae, introduced shrubs occasional as weeds in disturbed places on Olohega. Probably brought in from Samoa, where it is called by the same name.

(45) **Militini**—*Ocimum sanctum* L., Labiatae, an introduced basil occasional in open sunny places around Etena, Olohega. Probably brought in from Samoa where it is used to scent clothes, and may be called by the same name there.

(46) **Moli**—*Citrus aurantium* L., Rutaceae, the introduced orange uncommon in a cultivation on Olohega for its edible fruits. Probably brought from Samoa, where it is called by the same name.

(47) **Mumuta**—Probably *Cyperus rotundus* L., Cyperaceae, the introduced nut sedge occasional as a weed of disturbed places on two or three of the islands. Probably brought from Samoa, where it is called by the same name and used for the same purpose. Its tuber is crushed and added as a fragrance to scent coconut oil.

(48) **Mutia**—*Lepturus repens* R. Br. and *L. acutiglumis* Steud., Gramineae, two littoral grasses common in open sandy places on the shores. The name, a general one, may be indiscriminately applied to nearly any grass or sedge; Parham (1971) ascribed it to *Fimbristylis cymosa* R. Br., Cyperaceae. One or more of the species are occasionally used in native remedies, and the stiff culms are used to clean out the ears. The same name is used similarly for grasses and sedges in Samoa.

(49) **Niu**—*Cocos nucifera* L., Palmae, the aboriginally introduced coconut palm, naturalized on nearly every motu. It is the most useful tree to the Tokelauans, and without the presence of this palm, life on these islands would be hard to

imagine. Nearly every part of the tree is utilized. The husk (*pulu*) of the nut is the source of the fibers called coir (*kafa*) used to make sennit, the primary cordage of the Polynesians (Fig. 10). Of lesser importance, the husk is used for kindling, for transporting fire in the absence of matches, for fashioning temporary spoons employed in scooping out the meat of green nuts, for cleaning dishes, for keeping fires going, and even as a substitute for toilet paper. Macgregor (1937) also noted husk fibers being fashioned into reef shoes (*taka*), and the charred fibers used in concocting a black dye in former times.

The shell (*pupu*) is made into containers for gathering toddy (*kaleve*) and for making handicrafts such as purses. When halved, it serves as a convenient cooking cup for dishes like *tupelepele* (made with coconut water, the grated flesh from a drinking nut, and starch as a thickener), and is the primary source of fuel for fires.

The dried inflorescence and spathe are used for kindling. The sap dripping from the cut flowering stalk is collected in coconut shells or tin cans (Fig. 11) suspended from the inflorescence, and, when naturally fermented in a day or two, is the favorite alcoholic drink of Tokelau men; this practice is reportedly of fairly recent origin. The water from the green nut is a refreshing drink consumed by everyone, especially when they are working in the plantations. A sufficient supply of coconut water was particularly critical in former times (i.e., prior to the introduction of metal roofs for collecting water) when freshwater was available only during and shortly after rainfall. The coconut water is also commonly used in cooking and for preparing native remedies.

The meat or copra inside the shell is also of great importance to the Tokelau people. It is eaten raw, particularly at the young stages (i.e., in green nuts), or is grated and either cooked in a variety of dishes such as *vaihalo* or, more commonly, squeezed to extract the coconut cream, which is added to most prepared dishes (see food uses of *fala*). The cream is also used to make the scented coconut oil (*lolo*) commonly employed in medicines and massage lotions. Flowers are added to the cream, which is then either boiled or set in the sun to extract the oil which comes to the surface. The gratings with the cream extracted are commonly fed to chickens. The most important commercial use of the meat is for copra, which is dried in the sun and exported. At one time, copra was the principal source of export income for the islands, and throughout Polynesia.

At the base of the leaves is the gauze-like material known as *kaka* used as a strainer for making *kaleve* and other liquids. Although the wood of the trunk is hard and durable, it is of little use in Tokelau today. Formerly, it was employed in making house foundations and pig sties.

The leaves, nearly as useful as the nuts, are commonly woven into temporary baskets, blinds (*pola*) for houses, serving trays (*laulau*), wrappings for fish cooked in an oven, and, in the old days, sails for outrigger canoes. The young leaves are commonly woven into handicrafts, especially fine hats, fans, and baskets. These leaves (*moemoe*) are separated, boiled, scraped to remove the green residue, and dried in the sun. The whole fronds are used for thatch, fire kindling, and torches. The split midribs of the fronds are fashioned into brooms (*halu*) and other items. The tree is called by the same name throughout most of Polynesia. At least three varieties are recognized:

Kita—A dwarf variety with many small coconuts per bunch.
Niu noa—A tall, large-fruited variety favored for making coir (*kafa*).
Utogau—A variety with an edible husk, called *magalo* in Samoa and *magaro* elsewhere in Polynesia.

(50) **Nonu**—*Morinda citrifolia* L., Rubiaceae, the aboriginally introduced or indigenous Indian-mulberry common in secondary forest and disturbed places on all the islands. The large, translucent white to yellow, smelly fruit is sometimes casually eaten, but was probably harvested and cooked only in times of famine. The inner bark, scraped from the root and mixed with ashes, was commonly used as a pink or red dye, a practice known throughout Polynesia. The stems are sometimes used for rafter sticks (*kaho*), adze handles, and as part of a canoe outrigger (*tolutolu ama*). The most important use of *nonu,* however, was and still is as a medicinal plant. The leaves, either chewed or whole, are commonly applied to boils (*fakahoa*), carbuncles (*hila*), and swellings (*fula*). Warmed over a fire, they are applied to hemorrhoids (*'ua fiti*); when chopped in coconut oil, they are rubbed onto inflammations (*mumu*). The juice from the fruit is drunk as a cure for stomatitis (*pala*) and cough (*tale*). The use of *nonu* in native medicines is ubiquitous in Polynesia and apparently predates the European Era. Called *nonu* in Samoa, *nono* from the Cook Islands to the Tuamotus, and *noni* in Hawaii and the Marquesas.

(51) **Nuna**—*Boerhavia tetrandra* Forst., Nyctaginaceae, an indigenous, prostrate herb common in sandy, sunny places on the motus. The stems are sometimes fashioned into leis, and the leaves are occasionally added to native remedies used for treating several maladies. This is probably what Macgregor (1937) listed as *nguna* and misidentified as *Lepidium bidentoides* (=*L. bidentatum*), a species not found in Tokelau. The name *nuna* appears to be unique to Tokelau, although in Pukapuka it is applied to *Laportea ruderalis* (Whistler n.d.), which is called *ateate* in Tokelau. The Tuamotuan name for *Boerhavia* is *runa. Whistler 4616,* PTBG.

(52) **Oliana**—*Nerium oleander* L., Apocynaceae, the introduced oleander occasional in cultivation as an ornamental around houses. The variety found in Tokelau, the red double-petalled kind, was probably introduced from Samoa along with its Samoan name *oliana,* which is taken directly from the English "oleander."

(53) **Pagi**—*Kalanchoe pinnata* (Lam.) Pers., Crassulaceae, the introduced air plant naturalized in secondary forest on Olohega. Children suck the nectar from the flowers. The plant was probably brought in from Samoa, but the local name apparently is unique to Olohega.

(54) **Paina**—*Casuarina equisetifolia* L., Casuarinacaeae, the introduced ironwood tree, uncommon in cultivation around villages. It was probably brought in from Samoa, where it is called *toa* as it is over most of its Polynesian range. The Tokelauan name is taken directly from the English "pine," a tree that *Casuarina* superficially resembles.

(55) **Pā tagitagi**—*Polyscias scutellaria* (Burm. f.) Fosb. and *P. guilfoylei* (Bull) Bailey, Araliaceae, two introduced shrubs occasional in cultivation around houses, mostly as hedges (*pā*). Apparently introduced from Samoa, where they are called *tagitagi.*

(56) **Pā tagitagi**—*Codiaeum variegatum* (L.) Bl., Euphorbiaceae, the introduced

croton common in cultivation around houses. Probably introduced from Samoa, where it has no common local name; in Tokelau, it is called by the same name as the *Polyscias* species above.

(57) **Pate**—*Coleus blumei* Benth., Labiatae, the introduced variegated coleus occasional in cultivation around houses as an ornamental. Brought in from Samoa along with its Samoan name. Called *fāteine* on Olohega. *Whistler 5767,* PTBG.

(58) **Pele**—*Hibiscus manihot* L., Malvaceae, the introduced *bele* or tree spinach occasional in cultivation in gardens for its edible leaves. It does not thrive on the atolls, and on some islands has been lost or nearly so. Brought in from Samoa, where it is called by the same name.

(59) **Piu**—*Pritchardia pacifica* Seem. & Wendl., Palmae, a large, aboriginally introduced fan palm, occasional to uncommon in cultivation. It is native to Tonga, but was aboriginally introduced to Samoa and Fiji and to Tokelau, where it is called by the same name as in Samoa. The plant was noted by Pickering (1876) on Faka'ofo in 1839 as "Palm; flabellate leaves; apparently same Honolulu" [*sic*], but was neglected by subsequent publications. I observed this palm on Atafu, and noted from another source that it still occurs on Nukunonu. The pulp of the fruits is edible, and the leaves are occasionally used to wrap fish for cooking.

(60) **Polo**—*Solanum viride* Spreng., Solanaceae, an aboriginally introduced shrub now rare in open sunny places on the outer motus. The red berries were formerly fashioned into leis, and some parts were occasionally used in native remedies. Nowadays, however, the plant is almost entirely forgotten. Called by the same name in Samoa (where it is also rare), and by cognates of this throughout most of its Polynesian range. *Whistler 4650,* PTBG. Also called *fua polopolo.*

(61) **Polo feū**—*Capsicum frutescens* L., Solanaceae, the introduced chili pepper occasional around houses and in disturbed places. It is sometimes used as a hot spice, but does not grow well on the atolls and has apparently disappeared from Atafu. Called by the same name in Samoa and Tuvalu.

(62) **Pua**—*Calophyllum inophyllum* L., Guttiferae, a large, indigenous or aboriginally introduced tree uncommon in the villages and in the littoral forest on the motus. The tree has a fine wood from which native canoes, furniture, small bowls, drums, gongs, and handicrafts are carved. The leaves are sometimes used in native medicines, and the showy flowers are used in leis and for scenting coconut oil. The number of trees on each of the atolls is small, and on some, such as Atafu, can even be counted on a single hand. *Whistler 5762,* PTBG.

(63) **Puapua**—*Guettarda speciosa* L., Rubiaceae, an indigenous tree common in the littoral forest. The wood is not so highly valued as that of *kanava, pua,* or *puka,* but is nevertheless used for making bowls, canoe parts such as the stick attached to outrigger booms (*tolutolu ama*), poles for boats (*toko*), rafter sticks (*kaho*), temporary shelters, and fishing poles (*hikaki*); it is also used for firewood (*fafie*) and for starting fires by friction (Fig. 6). The showy, fragrant white flowers are used in leis and for scenting coconut oil. The leaves are used in fires for drying leaves of the *kie* pandanus, occasionally in native remedies for ailments like boils (*fakafoa*), and even as emergency toilet paper. *Whistler 4621,* PTBG.

(64) **Pua fiti**—*Plumeria rubra* L. and *P. obtusa* L., Apocynaceae, two introduced species of plumeria or frangipani, commonly cultivated around villages, especially the former species, as ornamentals and for the fragrant flowers. Both were probably introduced from Samoa, where they are called by the same name.

(65) **Puka**—*Hernandia nymphaeifolia* (Presl) Kub., Hernandiaceae, a large indigenous tree common to abundant in undisturbed littoral forest. The soft, light wood is sometimes made into small canoes, outriggers, wooden pillows (*'alugalakau*), and cricket bats (*pate*). The hard, round, black seeds are sometimes fashioned into leis and are used by children as marbles (*māpu*). The young leaves (*moemoe*) are soaked in water and rubbed on sore eyes (*mata tīgā*), and are sometimes used in making dancing skirts. Also called *puka vaka,* probably when large enough to be used for a native canoe (*vaka*), or *puka ama* when smaller and suitable for making the canoe outrigger (*ama*). Called *pu'a* in Samoa and either *puka* (as in Tuvalu) or its cognates throughout most of Polynesia. *Whistler 5769,* PTBG.

(66) **Puka ama**—See *puka* above.

(67) **Puka kakai**—*Pisonia grandis* R. Br., Nyctaginaceae, an indigenous tree often dominating native littoral forest. The wood is soft and of little value other than for things like outhouse flooring. The leaves serve for pig food, compost, and occasionally for native medicines. Macgregor (1937) and Parham (1971) both recorded the name as *puka vai,* which is, however, the Tuvaluan name and a cognate of the Samoan name, *pu'avai. Whistler 5751,* PTBG.

(68) **Puka vaka**—See *puka* above.

(69) **Pulaka**—*Cyrtosperma chamissonis* (Schott) Merr., Araceae, the aboriginally introduced giant taro common in cultivation in excavated pits on the motus (Fig. 12). The large rhizomes are one of, if not the, primary source of starch in the Tokelauan diet. In addition to being eaten baked or boiled, they are commonly boiled,, crushed, mixed with coconut cream, and cooked in coconut cream with burnt sugar to make a tasty dish called *fekei.* The leaves are used for preparing food and covering the *umu,* the petioles are split by children to make a toy (*lūlū*) flicked to make a loud popping sound, and the fibers from the petiole are sometimes used in weaving hats and baskets. Called by the same name in Tuvalu, and *pula'a* in Samoa. Several varieties are recognized.

(70) **Pulu fao**—See *fao.*

(71) **Sasalapa**—*Annona muricata* L., Annonaceae, the introduced soursop uncommon in cultivation on Olohega. It is grown for its edible fruit and was probably brought in from Samoa, where it is called by the same name.

(72) **Suipi**—An ornamental shrub with colored or variegated leaves, possibly *Pseuderanthemum carruthersii* (Seem.) Guillaum., Acanthaceae, uncommon in cultivation, and not seen by me. Brought from Samoa, where it is probably called by the same name.

(73) **Suisana**—See *lili.*

(74) **Taepuā**—One of several introduced weeds, probably mainly *Vernonia cinerea* (L.) Less., Compositae, which is common in disturbed places on the inhabited motus. *Vernonia,* however, was called *mahiku* by one man from Nukunonu. Literally, "pig excrement."

(75) **Taiuli**—The dark wood of *kanava.* Its young, white wood is called *taitea.*

(76) **Talie**—*Terminalia catappa* L., Combretaceae, a large introduced tree uncommon in villages, and *Terminalia samoensis* Rech., a large tree rare in the littoral forest of Faka'ofo. The former species is grown for its shade and perhaps for fruits, which contain a small edible kernel relished by children. The wood of both species is used to make poles, walking sticks (*tokotoko*), adze handles, and canoes. Called by the same name in Samoa and Tuvalu.

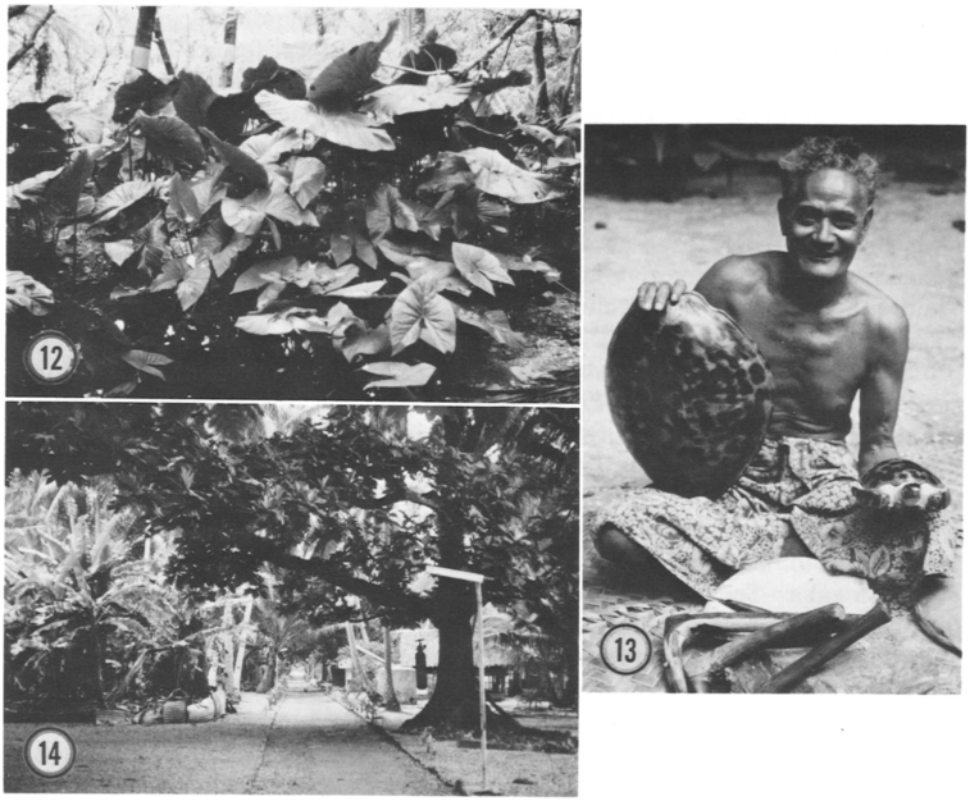

Fig. 12-14. **Fig. 12.** *Pulaka* pits on Atafu. **Fig. 13.** Craftsman displaying turtles carved from *Tournefortia argentea* wood. **Fig. 14.** Huge breadfruit trees (*Artocarpus* sp.) in a Tokelauan village.

(77) **Talo**—*Colocasia esculenta* (L.) Schott, Araceae, the aboriginally introduced taro cultivated only on Olohega. The rhizomes are used for food, and the leaves are cooked with coconut cream as a vegetable. The shoots are usually brought from Samoa since the replanting material on Tokelau is not suitable. Called by the same name or its cognates throughout Polynesia.

(78) **Talo palagi**—*Xanthosoma sagittifolium* (L.) Schott, Araceae, an introduced type of American taro uncommon in cultivation on Atafu for its edible rhizomes. Probably brought in from Samoa, where it is called by the same name. It does not do well in the atoll environment.

(79) **Talotalo**—Shortened form of *lau talotalo,* and the name noted for the plant by Besnier (1981) in Tuvalu.

(80) **Tamatama**—Shortened form of *lau tamatama,* and the name used in Tuvalu for the plant.

(81) **Tāmu**—*Alocasia macrorrhiza* (L.) G. Don, Araceae, the introduced *kape* occasional to common in cultivation in compost pits on the inhabited motus of all the islands. It is grown for its edible rhizomes, but it is not nearly so important in the Tokelauan diet as *pulaka.* Probably brought in from Samoa, where it is called *ta'amu,* and recorded by Besnier (1981) as *taamu* in Tuvalu.

(82) **Tamole**—*Portulaca oleracea* L., Portulacaceae, the introduced pigweed or

purslane uncommon as a weed of disturbed, sunny places; *Whistler 4606,* PTBG. Also probably *Portulaca samoensis* v. Poll., an indigenous succulent herb uncommon in sunny, sandy places; *Whistler 4590,* PTBG, and *Whistler 4660,* PTBG. The plants are sometimes cooked for food, but are not common enough for this to be a regular occurrence. Called by the same name in Samoa. See *katuli.*

(83) **Tauhunu**—*Tournefortia argentea* L. f., Boraginaceae, an indigenous tree occasional to common on the shores, particularly on the outer edge of the motus. The wood is used to make canoe bailers (*tata*), adze handles, gongs, and handicrafts such as carved turtles (Fig. 13). The leaves are used in native remedies for treating inflammations (*mumu*), swellings (*fula*), and several other ailments. The leaves are also used as bait (*maunu*) in fishing, as compost, and to stuff pigs to be cooked in an *umu.* Parham (1971) recorded this as *tauhinu.* Called *tauhunu, tau'unu,* or *tai'inu* in the Cook Islands and *tausuni* in Samoa.

(84) **Teuila**—*Alpinia purpurea* (Vieill.) K. Schum., Zingiberaceae, the introduced red ginger uncommon in cultivation around houses as an ornamental. The plant was probably brought in from Samoa, where it is called by the same name. It grows poorly in the atoll environment.

(85) **Tiale tiale**—*Gardenia taitensis* DC., Rubiaceae, the aboriginally introduced Tahitian gardenia cultivated for its showy, fragrant flowers used for leis and decoration, and for scenting coconut oil and some native medicines. The wood is carved into the netting needle (*hika*) and gauge (*afa*) used in making fishing nets (*kupega*). Also sometimes called *tiale,* which is its name in Tuvalu. *Tiare* and *tiale* are the names used throughout most of Polynesia. *Whistler 3435,* PTBG.

(86) **Tipolo**—*Citrus aurantifolia* (Christm.) Swingle, Rutaceae, the introduced lime tree uncommon in, or perhaps now lost from, cultivation on three of the atolls. The fruit is used to make limeade. Probably brought from Samoa, where it is called by the same name.

(87) **Toitoi**—The stem pith of *gahu* (*Scaevola sericea*). The Samoan name for the plant, *to'ito'i,* is a cognate of this.

(88) **Tolo**—*Saccharum officinarum* L., Gramineae, the aboriginally introduced sugarcane uncommon in cultivation. The plant is grown for its sugar-laden stalks, which are chewed, but it grows poorly in the atoll environment. Called by the same name in Samoa and Tuvalu.

(89) **Totolo**—*Triumfetta procumbens* Forst. f., Tiliaceae, an indigenous prostrate shrub occasional in open sandy areas and sometimes under coconut plantations. The bark is sometimes used as a shampoo or as a laundry soap, the yellow flowers are occasionally strung into leis, and the leaves and bark are sometimes employed in native medicines. Called *tolotolo* in Tuvalu. *Whistler 4608,* PTBG.

(90) **Tuihē**—*Fimbristylis cymosa* R. Br., Cyperaceae, an indigenous sedge uncommon to common in open sunny places. The plant is uncommonly employed in native medicines, and the stalks can be used to clean out the ears. Some people say this is the same as, or the stalk of, *mutia.* Called *tuisē* in Samoa. *Whistler 3361,* PTBG.

(91) **Ufi**—*Dioscorea alata* L., Dioscoreaceae, the introduced yam uncommon in cultivation, reported only by Parham (1971) from Atafu, but I did not see it. The shoots are probably brought in from Samoa, where it is an aboriginal

introduction called by the same name. The plant is unsuited to the atoll environment.

(92) **'Ulu**—The species of breadfruit (Fig. 14), *Artocarpus altilis* (Park.) Fosb., known as *'ulu Hamoa,* and *Artocarpus mariannensis* Trec., known as *'ulu Elihe,* Moraceae. The former, which was probably aboriginally introduced from Samoa, has yellow pulp and nearly glabrous leaves. The latter species has a yellow-orange pulp and conspicuously pubescent leaves, and was probably introduced in recent times judging by the name "*Elihe*" (Ellice Islands), although called *'ulu lalo* (the aboriginal name for the Ellice Islands) by Macgregor (1937). The two species apparently hybridize (to form a type known as *'afa*). At least four Samoan varieties of *A. altilis* are known from Tokelau: *aveloloa* and *maopo,* which were first recorded by Macgregor (1937) working on Atafu, and varieties *puou* and *ma'afala,* reported from Olohega.

The most important use of breadfruit is, of course, for its nutritious fruit, which is baked, boiled, or fried. Other parts of the tree are also utilized: the sap, for caulking canoes (although nowadays putty is used instead), for fashioning diving goggles, and in several native medicines; the leaves, for serving food, for compost, and for covering the *umu*; and the wood, for canoes and firewood.

(93) **Vao lima**—*Paspalum conjugatum* Berg., Gramineae, the introduced sour grass, occasional to common as a weed of disturbed places. Probably brought in from Samoa, where it is called by the same name.

(94) **Vao tuitui**—*Cenchrus echinatus* L., Gramineae, the introduced sandbur common as a weed of disturbed places on all the islands except Atafu. Probably brought in from Samoa, where it is called by the same name.

The Tokelauan dictionary (Office of Tokelau Affairs 1986) also lists *kofe* (coffee), *kukama* (cucumber), *meleni* (watermelon), *mauteni* or *pamukeni* (pumpkin), *vaioleti* (violets), and *vine* (grapes), but these are rarely if ever grown in Tokelau and the names are all, with the exception of *pamukeni,* Samoan names.

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