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FOOD: ITS SEARCH, CAPTURE, AND PREPARATION.

BY

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PRESENTED TO BOTH HOUSES OF PARLIAMENT BY COMMAND.

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PREFACE.

THE identification of my botanical specimens, compiled in the list of edible plants (sect. 9), has been very kindly carried out for me by the Colonial and Assistant Colonial Botanists — Messrs. F. M. and J. F. Bailey, respectively. It can have been no light task for these gentlemen to have examined and reported on something like 400 plants which I found applied to different economic uses amongst the North Queensland aborigionals. Mr. R. Hislop, late of Wyalla, Bloomfield River, the Messrs. Brooke, of Brooklands, Tully River, the Revs. N. Hey, of Mapoon, Batavia River, W. Poland, of Cape Bedford, and Mrs. Gribble, late of Yarrabah, Cape Grafton, have all rendered me great assistance, both in collecting the local floras and gathering much useful information concerning them.

The molluscs (sect. 14) have similarly been identified by Mr. C. Hedley, Conchologist to the Australian Museum, Sydney. I am much indebted for the advice and help received from him.

The following are the abbreviations used throughout this Bulletin :—

Ath.	= Atherton.	B's H.	= Butcher's Hill (Boggy Creek).
Bld.	= Bloomfield River.	C.Gr.	= Cape Grafton.
C. Bd.	= Cape Bedford.	Penn. R.	= Pennefather (Coen) River.
Ckn.	= Cooktown.		
KYE	= Koko-yellanji blacks to be found at ...	...	B's H. Bld.
KMI	= Koko-miuni " " ...	...	(Middle) Palmer River.
KEN	= Kendaru " " ...	...	Coast between mouths of Stanley and Nassau Rivers.
KYI	= Koko-yimidir " " ...	...	Ckn., C. Bd., etc.
KRA	= Koko-rarmul } blacks " ...	...	Hinterland and coast of Princess Charlotte Bay.
KWA	= Koko-warn }		
KLA	= Koko-lamu-lamu }		
KUG	= Kungganji " " ...	...	C. Gr.
NGG	= Nggerikudi " " ...	...	Pennefather and Batavia Rivers.
NGI	= Ngaikungo }		
NGA	= Ngatchen } " " ...	...	Atherton, etc.
CHI	= Chirpal }		
MAL	= Mallanpara " " ...	...	(Lower) Tully River Scrubs.
MIT	= Mnitakudi " " ...	...	Cloncurry.
PPT	= Pitta-Pitta " " ...	...	Boulia.

To render it the more complete, I have freely drawn on extracts from a previous work of mine, the "Ethnological Studies," etc.

WALTER E. ROTH.

Cooktown, 1st September, 1901.

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FOOD: ITS SEARCH, CAPTURE, AND PREPARATION.

1. Meals.—Except perhaps of an evening, meals are not as a rule partaken of at any definite stated times. There is no fixed meal in the morning, unless something is left over from the night before. Food may be prepared, cooked, and eaten wherever it is caught out in the open, though it is usually brought back to camp where, about sundown, the main meal is eaten.

In the matter of dining, in some cases it is customary for certain of the females to take their meals apart; in others, it is obligatory on particular males to do so. On the Bloomfield River, men, boys, and girls (up to four or five years of age) dine together: all the other females, without distinction of any sort, mess apart. At Cape Bedford, the members of one family take their meals together, except the single young men (above puberty) who dine apart. On the lower Tully River each family dines by itself; the unmarried men will mix with the others at meals, and each will help himself, although he may have had no hand in the capture of that of which he is taking a share: men and women eat together with certain limitations, squatting down just as the fancy takes them. The limitations referred to here, and applicable elsewhere, are dependent upon the different rules of "Tabu"—*e.g.*, a man not being allowed to sit with his mother-in-law—which will be discussed in due course.

There is no season during which any particular food is forbidden, though there are restrictions pretty well everywhere varying with the individual's sex, age, and social status. "Poisonous" snakes are eaten at Princess Charlotte Bay, but avoided on the Bloomfield. Yams, roots, nuts, and shell-fish are generally prepared by the women: flesh food usually by the men. Among the scrub-blacks of the lower Tully River, on the other hand, the cooking is done mostly by the males, though the opposite sex shares the labour in mainly collecting the seeds and nuts. Occasionally, food cooked by females may not be eaten by the males (*Dioscorea sativa*).

2. Middens.—I have observed but few kitchen-middens in the true sense of the term, a fact which may be due to the continual shifting of the camp owing to change of season, food supplies, and sanitary reasons. Between the junction of the Hey and Embley Rivers are to be found middens of burnt shell, mainly of *Area granosa*, Linne, some of the mounds reaching to a height of over 30 feet, and dotted over a distance of from a quarter to half a mile in length. On the tops of certain of them may be seen remains of fires and huts, the shells, after cooking, having been thrown down the sides. Considering that the total number of tons of shell comprising these mounds must be reckoned in hundreds, probably thousands, and that the local population is comparatively scarce, the progress of their formation has evidently been going on for several generations past. In view of the fact that these middens can be scaled only with difficulty, and that an aboriginal will not exert himself physically any more than is absolutely necessary, it seems feasible that the natives have purposely cooked and camped on the summits to avoid mosquitoes and sand-flies, and so have unconsciously been continually increasing, year by year, the height up which they have had to climb.

3. Food in Season.—Speaking generally: emu, kangaroo, opossum, and fish are hunted at any time; lilies and honey in the dry season; roots and fruits in the wet season; birds, crocodile-, and turtle- eggs whenever found.

The migrations of the tribe are certainly influenced by the plants or animals it searches for and hunts.

4. Preparations for Cooking Vegetables.—The various procedures to which vegetable food is in many cases subjected, prior to being cooked or otherwise rendered palatable, will be found mentioned under the respective plants in sect. 9. Amongst such processes may now be noted washing, grinding, pounding, straining, and grating. **Washing**, which may be effected by allowing running water to percolate through a sieve, in the shape of a dilly-bag, containing the vegetable, undoubtedly removes injurious elements (*Castanospermum*, *Cycas*) and bitter tastes (*Dioscorea*). **Grinding** consists in the straight forwards-movement of a small flattened and rounded stone, which is pressed by the grasped hand along the surface of a larger more-or-less fixed slab: with a little water which is besprinkled now and again, the contents of the seed-cases, etc., broken between the stones, are mashed up into a pasty mass. **Pounding**, by means of a stick or stone, alternately with roasting, certainly removes the acrid taste of several roots (*Vitis*) which, unless so prepared, it would be well-nigh impossible to eat. For purposes of **Straining**, the place of a colander is taken by a sieve dilly-bag (*Leichhardtia*), a bundle of fine *Parotis* or *Panicum* grass (*Tacca*), or even a hole in the sand (*Bruguiera*). A natural **Grater** can be made from a piece of rough bark (*Tacca*).

5. Preparations for Cooking Meats.—Any large portion of flesh is cut up into conveniently-sized pieces, on the lower Tully River, by means of the spines on a lawyer-cane used after the manner of a cross-cut saw. Leichhardt, when on the Lynd River (Journal, etc., p. 269), speaks of "flints fastened with human hair to the ends of sticks, and which are used as knives to cut their skin and food." Flint flakes with gum-cement handles are used for similar purposes in the far Western districts. Meat is certainly preferred fresh to being tainted, and is always cooked in some way or another: the only exception I know of is on the Tully, where the intestines of some of the larger mammals, reptiles, and birds may be eaten raw by putting one end of the gut into the mouth, and, as more and more is chewed up, squeezing the contained excrement with the fingers further and further away. At the back of Princess Charlotte Bay, presumably to stop all reflex action when roasted in a coil over the fire, I have seen the snake previously and forcibly stretched, length by length, over the flames. In this same district, and possibly for a similar purpose, tortoises are killed by inserting a stiff wooden bristle through the nostril into the brain and so, apparently, into the spinal cavity wherein it is

poked up and down. Lumholtz speaks of the Torilla, etc., natives plugging the nostrils of the dugong "to kill it the quicker"; but whether this is the correct reason for the practice I have not been able to ascertain. A common way of killing fish is to bite into them deeply just at the back of the head; this is very frequently done by a fisherman before he is ready to leave the water, and who thus makes sure that on throwing the fish already caught on to the banks there is no chance of their skipping back into their native element.

6. Cooking.—The actual cooking of both animal and plant food is effected either by roasting, baking, boiling, or grilling. Of these, **Roasting**—broiling would be a better term—is perhaps the simplest and easiest process, the material to be cooked being just placed on and in the hot ashes. **Baking** in ground-ovens with heated stones, or with chunks of ant-bed when the latter are not available, varies slightly in the different districts. At Cape Bedford and on the Bloomfield a number of stones (KYU, kurma), after being well heated in a fire, are removed together with the ashes, and a hole quickly dug in the position just occupied. Along its bottom are next placed several kinds of leaves (various species of ginger); upon these the pieces of meat, amongst which the hot stones and ashes are packed, then a covering of some more leaves or tea-tree bark, and lastly a layer of earth and stones. At Mornington Island I found ground-ovens lined with tea-tree bark, with charred stones *in situ*. On the Pennefather River, instead of cutting the carcass up into pieces, heated stones are placed inside the animal to be baked. Take, for instance, the case of a kangaroo, which, on being killed, is usually first of all robbed of its tail-tendons, and then has the main joints of its upper and lower limbs dislocated to enable them to be subsequently folded over and bound together. The tongue is next drawn out and skewered with a wooden splinter over the incisors (required for spoke-shaves) to prevent them being too much damaged by the heat. The belly, incised horizontally, is now freed of its intestines, which are replaced by heated stones. The limbs are finally drawn up to the sides of the body, the whole covered with bark, tied round and round like a bundle, and put into the hot ashes, etc., with which it is well covered over. Large turtle is similarly baked here, with the insertion of hot stones through an incision in the neck. So again, in the Rockhampton district, dugong used to be "stuffed" with heated stones during its baking. On the lower Tully, an additional fire is lighted on top of the oven, which, met with in sandy places, is found to be used over and over again: banana leaves and tea-tree bark generally line it. In the Endeavour River district, around the Annan, etc., the old discarded stone heads of the original axes have been utilised in large measure for lining the ground-ovens, a fact which will account in some measure for the paucity in this district of remains of these implements at the present day. **Boiling** is done in a bark-trough (*e.g.*, *Curcuma australasica* on the Bloomfield), or more usually in a large *Mala* shell. I have met with the process in the hinterland of Princess Charlotte Bay, and on the Pennefather, but certainly in the latter case not as applied to the cooking of food. From the evidence of one of the earliest pioneers (Messrs. Hislop), it is a certainty that the Bloomfield blacks practised boiling before any permanent European settlement ever took place there. On the other hand, Lieutenant Cook, in describing the Endeavour River natives, only 50 miles distant, says: "They do not appear to eat any animal food raw; but, having no vessel in which water can be boiled, they either broil it upon the coals or bake it in a hole by the help of hot stones." There is no such thing as boiling on the Tully River. In connection with this same question, that the process was unknown on the South Queensland Coast is rendered pretty conclusive by the following extract from the Narrative of Oxley's Expedition, etc. (p. 59): "When Pamphlet arrived among them [the natives of Bribie Island Passage] they had no more idea that water could be made hot than that it could be made solid, and on his heating some in a tin pot, which he had saved when wrecked, the whole tribe gathered round him and watched the pot till it began to boil, when they all took to their heels, shouting and screaming, nor could they be persuaded to return till they saw him pour the water out and clean the pot, when they slowly ventured back, and carefully covered the place where the water was spilt with sand. During the whole of our countryman's stay among them, they were never reconciled to this operation of boiling." **Grilling**, which I have seen practised at Atherton and Cooktown in the case of the *Colocasia macrorrhiza*, is the general way for cooking eels on the Tully River. The form of "grid" observed at Atherton is shown in Fig. 1. The Tully appliances (MAL, warka) are of two types; the one is formed of four upright forks supporting two main cross-pieces, on which several sticks are laid, the whole reaching to a height of from 18 to 24 inches from the ground, Fig. 2; the other is lower, and built convex after the manner of a miniature hut, Fig. 3.

7. Water.—In times of scarcity, water is obtained from wells and from trees. Wells are usually dug in the beds of dried-up creeks or water-holes, and in close proximity to old swamps. The coastal blacks along the mouth of the Tully River sink circular wells with digging-sticks: they are from 3 to 4 feet deep, about 2 feet in diameter, and are spoken of as pilmba. At Bentinck Island, I saw circular wells about 1 foot in diameter, and 2 feet in depth, dug in the sand above high-water mark along the coast-line opposite Fowler Island. On the Isaac River, Leichhardt (Journal, etc., p. 159) speaks of the natives having fenced a water-hole "round with branches to prevent the sand from filling it up." Personally I do not know of any similar provision being made by aboriginals with a view to conserving water. In the Pennefather River district, in addition to being obtained from trees, water is also got by sinking. This is done in some likely spot—e.g., wherever the *Pandanus* grows in plenty—by driving a spear some 3 or 4 feet down into the ground and seeing whether the extremity is moist or not; if the quest be successful, a bunch of dried grass will then be rammed down. The grass acts as a strainer to the *débris*, and thus permits of the water being sucked up by means of a reed. In the hinterland of Princess Charlotte Bay, on the Palmer and Pennefather Rivers, and elsewhere, the *Melaleuca* are the usual trees whence water may be derived. The butt of this tea-tree is ordinarily more or less circular in section, but every here and there is to be met one more or less lozenge-shaped, due to a lateral bulge. From the base of these bulges, when cut, a pint or two of water is obtainable, which, though of a saltish taste, often proves very acceptable. Whether these bulges, which may occasionally be seen bilateral on the tree, are pathological or not, I am unable to decide. A. Thozet says of the *Sterculia rupestris*, Benth.:—"The natives refresh themselves with the mucilaginous sweet substance afforded by this tree. . . . . They cut holes in its soft trunk, where the water lodges and rots them to its centre, thus forming so many artificial reservoirs. On their hunting excursions afterwards, when thirsty, they tap them one or two feet below the old cuts and procure an abundant supply."

Flinders [Terra Australis, p. 114] makes the following mention of water-conservation at Halfway Island, about midway between Murray Island and the Queensland main:—"There being no water upon the Island, they [the natives] seemed to have hit upon the following expedient to obtain it: Long slips of bark are tied round the smooth stems of the *Pandanus*, and the loose ends are led into the shells of the cockle placed underneath. By these slips, the rain, which runs down the branches and stem of the tree, is conducted into the shells, and fills them at every considerable shower; and as each shell will contain two or three pints, forty or fifty thus placed under different trees will supply a good number of men."

8. Minerals.—Clay from the ant-hills—the outside covering—is on the Bloomfield (R. Hislop) used to "fill up" with when no other edible substance is available. The women and piccaninnies seem always able to eat of this, even after a meal of things more nourishing: it requires no preparation, and is known as kappai.

White clay, a kaolin (hydrous silicate of alumina), is eaten, both at the Bloomfield and at Cooktown. In the former district, it is generally (R. Hislop) dug out from the veins in the cliffs or in the banks of the creeks, and then carefully pounded and sifted, so as to render it quite smooth and free from grit. It is next placed in a bark trough, and, by the addition of water, worked into a stiff paste. This paste is now made into a cake, 1½ x 4 x 8 or 10 inches, and placed in the sun for from six to eight days, when it is eventually wrapped up in leaves, buried in the ashes, and a hot fire made over it. When cool, it is ready for use, and considered a delicacy. [This same white clay is employed for painting weapons, etc.] KYE, Bld., kambar; KYI, Ckn., C. Bd., gamai.

9. Plants.—The following list, with details of preparation where necessary, comprises a fair proportion—some 240—of the edible plants used by the North Queensland aboriginal. The meanings of the abbreviations employed are given in the Preface. The aboriginal names are those applied in the different localities where they have been collected, and do not necessarily imply that such and such a plant is used as food, or met with, only in the particular district or districts mentioned. In some cases, where, in addition to constituting an article of diet, the plant is applied to other purposes, this is noted in square brackets. In order to make this list as complete as possible I have introduced various plants, unknown to me personally as vegetable foods, but recorded as such by Messrs. A. Thozet and Edward Palmer. Thozet's pamphlet was published at Rockhampton in 1886 as "Notes on some of the Roots, Tubers, Bulbs, and Fruits used as Vegetable Food by the Aboriginals of Northern Queensland, Australia": Palmer read his paper "On Plants used by the Natives of North Queensland, Flinders and Mitchell Rivers, for Food, Medicine, etc.," before the Royal Society of New South Wales on 1st August, 1883.

Acacia ***Bidwillii***, Benth.—Roots of young trees roasted after peeling. **(E. Palmer.)**

Acacia crassicarpa, A. Cunn.—Roots roasted. KRA, te-ra; KYE, B's H., **mon-jin**; KYI, Ckn. (but not eaten here), yaro-ia.

Acacia decora, Reichb.—Gum gathered and eaten. (E. Palmer.)

Acacia farnesiana, Willd.—Seeds roasted. Cloncurry. (E. Palmer.)

Acacia holosericea, A. Cunn.—Fruit eaten. KYI, Ckn., C. Bd., warun.

Acacia homalophylla, A. Cunn.—Gum gathered and eaten. (E. Palmer.) **[Spears, boomerangs, etc.]**

Acacia pallida, F. v. M.—Roots of young trees roasted. (E. Palmer.)

Achras sp.—Fruit. (A. Thozet.)

Acrostichum aureum, Linn.—Roots **roasted.** KUG, C. Gr., dai-ingal.

Adenanthera abrosperma, F. v. M.—Seeds roasted. Mitchell River. (E. Palmer.)

Aleuritez moluccana, Willd.—"Candle-nut." Fruit roasted in a slow fire, and when the nut cracks it is fit to **eat.** [Oil utilised for spear-painting on the Bloomfield.] KYI, **Ckn.**, tarkal; KYE, Bld., billar.

Alsophila Woodsiana.—The young growing point of the stem, after being roasted, is eaten. NGI, CHI, Atb., kallai; NGA, Atb., kailaji.

Ammannia multiflora, F. v. M.—The whole plant is gathered and **broken up with the** feet on the ground to separate the woody parts; it is then winnowed, and **ground up with** water on flat stones, and baked as a cake. Cloncurry. (E. Palmer.)

Amomum Dallachyi, F. v. M.—Fruit eaten. KYI, C. Bd., dor-churn; Ckn., tor-chun; KYE, Bld., jun-jun.

Amorphophallus galbra, Bail.—Fruit, **stem**, root, eaten: all baked. KYI, C. Bd., Ckn., bandilin.

Ancilema siliculosum, R. Br. Roots eaten, both **raw and** roasted. NGG, a-un-du.

Antidesma Banius, Spreng.—The Bloomfield "cherry," where it is squashed upon a bark trough or shell, and eaten raw. KYI, Ckn., KYE, Bld., chunka. MAL, mol-kin.

Antidesma Dallachyanum, Baill.—Fruit **eaten.** NGI, CHI, NGA, Atb., **chi-chu**; KUG, C. Gr. ji-jor., je-je.

Aponogeton monostachyus, Linn.—Roots raw or **baked.** KYI, Ckn., KYE, Bld., kapabina.

Archontophœnix Alexandræ, F. v. M.—Base of **growing shoot** eaten **raw or roasted.** [Timber for spears.] MAL, kó-pangara.

Aspidium unitum, Sw., var. *propinquum.*—Rhizome eaten **after being alternately** roasted and pounded for some considerable time. KYI, Ckn., ngay-pul.

Atalantia glauca, Hook.—Fruit **raw.** PPT, wambanyi; MIT, kandutal.

Atylosia retiolata, Benth.—Roots roasted and hammered. KYI, Ckn., korlbun.

Avicennia officinalis, Linn. Fruit put in the ashes, and covered over with tea-tree **bark** and ashes, *i.e.* baked. It is then removed and put into a (sieve) dilly-bag, and washed in **it**, the water and *débris* passing **through**: the bag with its contents is finally dried **by** squeezing, and the "mush" poured **onto** a **piece** of bark and **eaten.** KYI, Ckn., C. Bd., **babun**; NGG, rdái-ite; Red Island, ipamaran.

Avicennia tamentosa, R. Br.—Fruit **is** baked or steamed in hollows, made **in the ground, in which they make fires**; then **taken out**, and soaked, and baked in the ashes. **Tidal waters in the Gulf.** (E Palmer.)

Banksia *dentata*, Linn.—The Cape Bedford blacks break **off the** blossoms **which** are **full of honey, put them in water,** and drink it; the liquid is **not left to ferment.** KYI, C. Bd., **kabir.**

Barringtonia racemosa, Gaudich. Fruit used as food. [Roots utilised for fibre, stems for fish-poison, bark for medicine.] KYI, Ckn., korrun; KRA, aljúl-kal, ju-ra; KWA, arné-ir, nan-un.

Bauhinia Carronii, F. v. M.—Flowers have a clear honey secreted, which is squeezed out by the fingers and sucked: they also place the flowers in water and drink the mixture. Cloncurry (E. Palmer). Georgina River.

Blechnum orientale, Linn.—The small rhizomes, after being alternately roasted in the fire, and "hammered" with a stone, are eaten. KYI, C. Bd., baral.

Blechnum serrulatum, Rich.—Rhizome roasted and hammered. Red Island. MAL, dugal.

Boerhaavia diffusa, Linn. Roots roasted. NGG, á-mi; PPT, wituka, winnu; MIT, ku-jo.

Bowenia spectabilis, Hook.—Rootstock eaten on the Bloomfield, at Cape Grafton, etc.; not at Cooktown. KYI, Ckn., jul-bin; KUG, ju-gur.

Bruguiera Rheedii, Blume.—"Mangrove." The elongating radicles are eaten, after being prepared as follows:—Baked in the ashes for some considerable time to allow of them becoming quite soft, these radicles are pounded between two stones, the skins picked off and thrown aside, and the yellowish-looking mass "washed" in fresh water contained in one of the ordinary bark-troughs. The washing consists of squeezing up the pulpy mass with the fingers under water, allowing it time to settle, and pouring off the clear surface-water. After some four or five of such washings—according to the quantity of vegetable being treated—the powdery-looking mass is transferred to a more or less circular basin-shaped hole scooped out in the sand. The hole has this peculiarity, and evidently an important one, that its entire lining is well damped and so smoothed into shape. When the mass has been poured in, the lining of the hole acts as a kind of fine colander, allowing the water to pass through in to the sand below, but retaining what now looks very much like some mashed mealy potato, which indeed it also resembles somewhat in taste. On occasion, if too much water has been poured in, and it is not percolating as quickly as might be wished, some of the top-water is got rid of by means of a small surface drain. These holes in the sand are often to be noticed along the coast-line, especially in the neighbourhood of the mangrove-swamps. KYI, C. Bd., Ckn., bambir; NGG, tcherda (timber), mo-odo (radicle); Red Island, wappa

Bruguiera gymnorrhiza, Lam.—Radicle first of all baked, then skin scraped off, sliced up with a snail-shell knife, and finally soaked in water all night, when it is ready for eating. MAL, man-ai.

Buchanania Muelleri, Engler.—Fruit eaten. KYI, Ckn., C. Bd., bandai; KYE, Bld., pandar; KRA, ngau-ra; KWA, thai-ir; KUG, ji-lara.

Calamus australis, Mart.—"Large lawyer-cane." Its berries are eaten at Cooktown: these are squashed in a bark-trough, and mixed with water, so as to make an (un-fermented) acid drink, at the Bloomfield (R. Hislop). At Atherton, the young shoots are eaten raw or roast. [Also used for "prodders," fish-traps, etc.]. KYI, Ckn., C. Bd., go-ra, go-ra; also KYI, Ckn., mé-tal, pelle-ga; KYE, Bld., milma; KRA, a-ri-ya, wawand-ja; KWA, arni-ana; NGI, CHI, NGA, Ath., karkin; MAL, chunggan.

Calamus caryotoides, Mart.—"Small lawyer-cane." The young "shoots" eaten both at Cooktown and the Bloomfield; the berries at Atherton. [Dilly-bags at Cairns, etc.] KYI, Ckn., C. Bd., ugan-in; KYE, Bld., barko; NGI, CHI, Ath., bo-kul; NGA, Ath., bo-ko.

Calamus Moti, Pail.—At Atherton, the young growing point of the stem is roasted, skinned, and then hammered before eaten; on the Tully, it is eaten raw. CHI, NGA, Ath., yarpulam; NGI, mollukan; MAL, bai-kul.

Canthium lucidum, Hook. & Arn.—Berries raw. Red Island. NGG, warra-anji.

Capparis canescens, Banks.—Fruit. KUG, kurpori.

Capparis humistrata, F. v. M.—Fruit. KUG, ko-par.

Capparis lasiantha, R. Br.—Fruit. Cloncurry, Mitchell, Flinders. (E. Palmer.)

Capparis lucida, R. Br.—Ripe fruit eaten. Mitchell, Lynd. (E. Palmer.)

Capparis Mitchelli, Lindl.—Fruit. KYI, Ckn., kalm-ba.

Capparis nobilis, F. v. M.—Fruit. KYI, Ckn., kalm-ba.

Capparis ornans, F. v. M.—Fruit. NGI, CHI, NGA, Ath., manni.

Capparis spinosa, var. *mucronifera*, F. v. M.—Fruit raw. Cloncurry. (E. Palmer.)

Capparis umbonata, Lindl.—Fruit eaten at Camooweal.

Carallia integerrima, DC.—Fruit. KRA, tilbi-a, KYI, Ckn., melljuran, bo-kor; KYI, C. Bd., bog-go.

Careya australis, F. v. M.—The Kunggandji blacks eat the fruit. [For twine, medicine, and various other purposes.] KUG, barjal; KUN, korn-gam; MAL, machal; KMI, jo-nen; NGG, ku-dperi.

Carissa ovata, R. Br.—Fruit gathered in quantities and eaten raw. Cloncurry. (E. Palmer.)

Castanospermum australe, A. Cunn.—"Moreton Bay Chestnut." Fruit eaten. On the Bloomfield, this nut is nearly always obtainable, but, like the *Entada scandens*, is not relished. It is one of the worst foods to prepare, a long time being required to wash away the disagreeable flavour. It is first of all baked in a stone oven, then pounded and sifted, put into a bark trough, and treated with like the *Dioscorea sativa* yam (R. Hislop). At Atherton, the shells being broken, the kernels are commenced to be baked about sunrise, the covering leaves and earth being removed about mid-day. They are then cut up into very fine chips with a sharp shell, etc., and at about sunset are put into a lawyer-cane dilly-bag, through which the creek (*i.e.* running) water is made to percolate, and there it remains until the following morning, when it is about ready to eat. On the lower Tully River, after the beans have been gathered, the nuts are removed, and placed in heaps in the ground-ovens. After covering with leaves and sand, a fire is lit on top, with the result that the nuts are practically steamed, a process occupying from a few hours up to a whole day. When removed, they are sliced up very fine with a snail-shell knife, and put in dilly-bags in a running stream for quite a couple of days, when they are ready. If not sliced up very fine, the bitter taste remains. KYI, Ckn., ku-par; KYE, Bld., marchái; NGI, NGA, Ath., wakki; CHI, Ath., mi-ran: MAL, moran; KUG, chonggora.

Ceropegia Cumingiana, Decne.—Yam. NGG, andréata.

Chilocarpus australis, F. v. M.—Fruit. MAL, pai-amara, kammin.

Clerodendron inerme, R. Br.—Fruit. [Timber for firesticks.] NGG, tá-anji (fruit).

Cochlospermum sp.—Roots of the young trees . . . , are roasted, when the skin peels off, leaving the edible part white and delicate and well flavoured. Mitchell River. (E. Palmer.)

Cocos nucifera, Linn.—"Cocoa-nut." KYI, C. Bd., diremandi. [I have purposely introduced this here, as Lieutenant Cook has inserted the "Cocos" in his vocabulary of the Endeavour River language taken in 1770.]

Cœlospermum reticulatum, Benth.—Seeds eaten raw. Red Island, ni-yuluka.

Colocasia antiquorum, Schott.—"Taro." Rootstock eaten, after baking. KYI, Ckn., C. Bd., pa-nu; KRA, pin; KWA, pan.

Colocasia macrorrhiza, Schott. Rootstock eaten after being alternately roasted and pounded between two stones: this is the ordinary method of preparation at Cooktown, on the Bloomfield and the Tully Rivers. At Atherton, and sometimes at Cooktown, after the roots have been roasted, they are placed on a specially constructed grid framework about 15 or 18 inches above the fire. Here they are left for some considerable time before being ultimately pounded. KYI, Ckn., C. Bd., mur-gan; KYE, Bld., dillunjur; NGI, CHI, NGA, Ath., kum-bi; MAL, kumbi.

Cryptocarya Bancrofti, Bail. Nut roasted in its shell, shell cracked, kernel pounded between round and flat stone, and then soaked in water, which percolates through a dilly-bag immersed in it. MAL, bara; Cardwell, wanga.

Cryptocarya Palmerstoni, Bail. The nut is roasted, cracked, the kernel pounded into flour, and treated in the same way as the *Cycas media*, except that it is ready for eating after the water has been percolating for some five or six hours; sometimes, however, it may be left in the water all night (R. Hislop). KYE, Bld., budjaba; NGI, pallaga; CHI, ko-ai; NGA, ko-ar.

Cucumis trigonus, Roxb.—The natives roll the stalks and fruit on the ground to free them from their hairy covering; they bite off one end and press the pulpy substance and seeds into their mouth, and throw away the outer rind, which is bitter; also used roasted. Cloncurry. (R. Palmer.)

Cureuligo ensifolia, R. Br.—Rhizomes roasted; baked on the Bloomfield. KYI, Ckn., C. Bd., gom-ol; KYI, C. Bd., batti; KYE, Bld., ku-mol; KYE, B'a. R., jula; KMI, yu-dva; KWA, li-a, poru; KRA, yu-dön, andor-a.

Curcuma australasica, Hook.—"Wild ginger" Tuberous roots either roasted or boiled; in the latter case a large Melo shell is generally used; KYI, Ckn., kumbiji; KYI, C. Bd., Starcke River, an-dan; KRA, ku-nante; KWA, roo-ton.

Cycas media, R. Br.—"Zamia." Fruit eaten. On the Bloomfield River it is fit to eat from July to January. The nuts are gathered by old men, women, and girls. They are roasted and cracked, the kernels being kept for some four or five days before being pounded up into flour by the women. The reason for letting these few days elapse is said to lie in the fact that the delay helps to make them pound up more finely. The pounded nut is next sifted through a palm-fibre dilly-bag, which, having a mesh with smaller interspaces than the other varieties of bag, prevents the coarser particles getting through. The flour is next put into a grass dilly-bag, which has been previously folded sideways upon itself so as to form a basin-like receptacle, and placed near a stream. With the help of leaves acting as a trough, water is allowed to continue flowing into the receptacle, matters being so regulated that the water never overflows the edges. Fresh water is thus continually percolating through the Zamia flour in its dilly-bag colander, right through the night, and in the morning it is ready to be eaten. It may, however, be kept for some three or four days, up to which time it is believed to improve; it will not, however, keep good any longer than that. (R. Hislop.) On the lower Tully River it is steamed and cut up like the *Castanospermum australe*, but rushing water is made to fall from a height on to the contents of the dilly-bag held below, so as to keep the mass both strained and well stirred—a process which is kept up continually for quite a day. KYI, C. Bd., Ckn., ba-dur; KYE, Bld., pâ-ra; NGI, CHI, NGA, Ath., kâumama; KUG, ni-jar; MAL, kimalo.

Cymbidium canaliculatum, R. Br.—The pseudobulbs of this plant are used by the blacks in Wide Bay, and by other coast blacks in the North. (E. Palmer.)

Cynanchum floribundum, R. Br.—Pods and leaves full of milk, eaten raw when young. Cloncurry. (E. Palmer.)

Cyperus esculentus, Linn.—"Tubers" (swollen joints of the underground stems) eaten raw or roasted, after the husks have been removed. The removal is ordinarily effected by a rolling between the fore-finger and thumb, occasionally between the open hand and the thigh. PPI, mangaru; MTI, makoru.

Dallachya vitiensis, F. v. M.—Fruit. (A. Thozet.)

Davidsonia pruriens, F. v. M.—Fruit. MAL, orni.

Dendrobium canaliculatum, R. Br.—Pseudobulbs, after being deprived of the old leaves, are eatable—baked. (A. Thozet.)

Dioscorea sativa, Linn., var. *elongata*, Bail.—Rootstock baked first, and then roasted: skin removed. KYI, C. Bd., Ckn., gal-gur; at Cooktown it is also known as kar-wa, an old specimen being called mâ-mi; KYE, Bld., kalkur, kau-a; KYE, B'a. R., kau-janga; KWA, tau-ora; KRA, wâi-ka; KMI, anybrbil; NGG, daiperi; Mapoon name, ko-fvi.

Dioscorea sativa, Linn., var. *rotunda*, Bail.—On the Bloomfield, this is suitable for use from about the middle of February to about the middle of May, the approximate extent of the wet season, during which it constitutes the main article of diet. It is dug up and prepared for use by both men and women; but if by the former, it may be eaten by males only. The actual mode of preparation is as follows:—After being dug out, it is carefully washed, and all dirt and adventitious roots removed. It is next baked in a stone oven for about four hours, at the end of which time it is mashed up in a grass dilly-bag, and then strained through a dilly-bag into a bark trough. The dilly-bag remains in the trough, and the yam "mash," to which water has been added, is stirred about and worked up until everything but the fibre and husk strains through into the trough below. The next process is to fill up what is now in the trough with water, to mix the "mess" well up, and allow it to stand therein for a good half-hour or so, *i.e.*, until such time as the water clears, when it is poured off, and fresh water added. It sometimes takes seven or eight waters before the disagreeable taste is removed. As soon as the cook considers it fit, she digs a hole of about the same size and shape as the inside of an ordinary wash-hand basin; this is

always done in some sandy place, the excavation being lined with clean sand. Into this hole the now semi-liquid mass is gently poured, and when the water is all drained off it is ready for eating, the prepared article looking much like the ordinary preserved (tinned) potato. It has to be eaten the same day as prepared; fermentation takes place quickly. (R. Hislop.) On the Morehead River the preparation is very similar. Rootstocks are cut up into halves or quarters, and washed in a bark trough. Baked in a hot ant-bed covered with tea-tree bark and earth. Here it remains for about twenty minutes, when it becomes soft, and is transferred into a grass dilly-bag, which is squeezed under water in a trough, the mealy substance passing into the water through the interspaces of the bag; the latter with its contents, such as they are, is now thrown aside. That which has been sieved through sinks to the bottom, the *débris*, etc., rising to the surface of the water, which is then carefully poured off. More water is poured on, the stuff allowed to settle, poured off again, and so on for some four or five times. A circular basin is next hollowed out of the sandy soil, up along the side of which a piece of bark is made to rest. From the trough the watery meal is now poured out into the piece of bark, whence it passes gently down into the hole, the water percolating through. As soon as fairly dry it is eaten. Great stress appears to be laid up here on the piece of bark resting down the side of the basin-like excavation; it is said to prevent the "spluttering" of the meal, which would clog up the interstices of the sand, and so tend to prevent the water passing through.—KYI, Ckn., wo-kai; KYE, Bld., wo-kai; KYE, B'a. H., ka-ra; KRA, rau-ola; KMI, jor-wa; KUN, kolbuk; NGG, no-ng.

Dioscorea transversa, R. Br.—Rootstock eaten, roasted (E. Palmer says, mostly eaten raw). NGI, CHI, Ath., chokoru; NGA, Ath., cho-ko; Red Island, am-pu.

Dolichos biflorus, Linn.—Rootstock roasted. KYI, Ckn., C. Bd., malkan; KYE, B'a. H., tandaji.

Drymophlœus Normanbyi, F. v. M.—On the Bloomfield the buds and young leaf-stalks are eaten. [Timber for spears, fibre-strands for sieve-bags.] KYI, Ckn., C. Bd., do-war; KYE, Bld., du-sr.

Elæagnus latifolia, Linn.—Fruit. NGI, millai-millai.

Elæocarpus grandis, F. v. M.—"Quandong." On the Bloomfield, when ripe, it is squashed in a bark-trough, mixed with water into a paste and eaten raw (R. Hislop). KYI, Ckn., C. Bd., mu-lun; KYE, Bld., jan-bal.; KUG, mur-kan; MAI, murngan; NGI, teramba.

Elettaria Scottiana, F. v. M.—"Wild ginger." Fruit raw. KYE, Bld., jeldo; KUG, cha-liv.

Eleusine ægyptiaca, Pers.—A sufficient quantity having been collected—a woman always preparing all seed food in the Boulia district—it is more or less broken up with the hands, next brushed into a heap, and then put into a circular hole in the ground. Within this hole, about 12 inches in diameter, and 7 or 8 in depth, the woman stands; pressing alternately one foot upon the other, she exerts a sort of rotary motion into which she throws all her weight, with the result that the grass upon which she treads becomes more and more disintegrated, the seed itself gradually working its way to the bottom. To throw all her weight upon the legs, she either supports herself on a sort of tripod of forked sticks erected in front of her, or else, when it happens to be handy, some low-lying limb of a tree. From the hole the seed is transferred to a wooden bowl, any of the larger sprigs, etc., are removed with the fingers, and the rest winnowed with the breath or a current of air: it is now clean enough and ready for grinding on the proper stone. This is effected by a more or less forwards and backwards movement of the arm and hand. During the grinding process the seed is moistened with water, and as each handful is subsequently ground it is smeared over the edge of the stone slab into a bowl: when sufficient of this pasty mass has been prepared, it is cooked in the ashes, like a damper, though sometimes it is eaten raw. PPT, yárraka.

Enchylæna tomentosa, R. Br.—Fruit raw. Cloncurry (E. Palmer.)

Endiandra insignis, Bail.—Prepared like the *Cryptocarya Palmerstoni*. NGI, kurunggai; NGA, CHI, bumbau.

Enhalus Koenigii, Rich.—Fruit roasted and eaten. Obtained in the salt water, and the blacks (on the northern side of Cape Bedford) can only get it when the tide is low; not met with at Cooktown. KYI, C. Bd., wa-pan.

Entada scandens, Benth.—"Matchbox bean." Apparently only eaten when nothing else is available. The seed is first baked in the ashes, then cracked up, and, inside a dilly-bag, left in running water all night. KYI, Ckn., C. Bd., yurl-nga; KYE, Bld., bá-bur; NGG (who often mix it with the *Bauhinia Rheedii*), parpangata.

Erioscma chinense, Vog.—Rootstock skinned and roasted. KYI, C. Bd., Ckn., bau-cha; KYE, B'a. H., kallar; KRA, nergal; KWA, al-ngáda; KMI, torakal.

Erythrina vespertilio, Benth.—Roots raw. [Timber for firesticks, flowers for mourning.] NGG, arau-yi.

Eucalyptus bicolor, A. Cunn.—A staple article of diet in the Boulia district when grass-seed is scarce. With a hooked stick some terminal branches of this tree are pulled down, and, just as they are, spread out to dry on a piece of ground cleared for the purpose. Here they lie, according to the heat of the sun, for half-a-day or a day, till sunset or the following morning. The ends of the branches are then all collected together, and the seed obtained by clamping the distal extremities and brushing them off into water, as in the case of the *Sporobolus actinocladus*. Before the ultimate drying, however, the seed is kept for a couple of hours or so in water, which during this time is repeatedly changed, so as to remove all traces of the taste of the gum. After being ground on the proper "grinding-stone" it is eaten raw. PPT, kárrapari.

Eucalyptus corymbosa, Sm.—The blossoms of this "bloodwood" are sucked for the honey by the Boulia and Georgina River natives.

Eucalyptus terminalis, F. v. M.—[Medicine.] NGG, raru. Manna is procured from the leaves and small branches by being gathered and laid on pieces of bark, when the particles of sugar or gum fall off, or are scraped off with mussel-shells into a koliman (bowl), or the leaves, when covered with the white exudation, are pounded together with a stone, and roasted in the ashes. Sometimes the sugary particles are gathered as they fall from the trees. Cloncurry, Gilbert River. (E. Palmer.)

Eugenia carissoides, F. v. M.—Fruit raw. NGG, esyú-ro.

Eugenia cormiflora, F. v. M.—Fruit. KYI, Ckn., C. Bd., baunapan; KYE, Bld., warta; KUG, C. Gr., gorubal; NGI, CHI, tukuro; NGA, morro.
Eugenia Hislopii, Bail.—Fruit raw. KYE, Bld., walkaran; KYI, Ckn., ugalkaran.
Eugenia kuranda, Bail.—Fruit. NGI, wanchan.
Eugenia leptantha, Wight.—Fruit. KUG, C. Gr., kai-go.
Eugenia suborbicularis, Benth.—Fruit. KYI, C. Bd., dalloi; Ckn., jeibi; KRA, wai-ra; KUG, kurobal; KYE, Bld., pajinjakn—where it is baked in the ashes, sometimes eaten raw (R. Hislop). NGG, ó-sie; Horn and Thursday Island, ko-ii; Red Island, o-yanda; MAL, chin-par.
Eupomatia laurina, R. Br.—Fruit. KUG, ma-ban; MAL, mu-jir.
Evocarpus cupressiformis, Labill.—Fruit. KYI, C. Bd., Ckn., bunuboi.
Evocarpus latifolius, R. Br.—Fruit. (A. Thozet.)
Fenzlia obtusa, Endl.—Fruit. KYI, C. Bd., baing-galung-ga; Red Island (?); KUG, kongonyor.
Ficus aspera, R. Br.—Fruit raw. Cloncurry, Mitchell River. (E. Palmer.)
Ficus colossea, F. v. M.—Fruit. KYI, Ckn., bannabólka, kokoya.
Ficus Cunninghamii, Miq.—Fruit. [Twine.] NGG, bé-ti.
Ficus obtectioides, F. v. M.—Fruit. [Shields, blankets.] MAL, magura.
Ficus smeraldæ, Bail.—Fruit. KUG, pandara.
Ficus eugenioides, F. v. M.—Fruit. KUG, ku-loi.
Ficus fasciculata, F. v. M.—Fruit. [Fibre-twine.] KYI, Ckn., kutyil; Stareke River, berdiga; KRA, alvá-ara; KWA, artir.
Ficus glomerata, Willd.—Fruit. KYI, Ckn., nu-char.
Ficus hispida, Linn.—Fruit, as well as leaves (eaten raw). MAL; chalkan.
Ficus nitida.—Fruit. [Twine.] NGG, dertabana.
Ficus opposita, Miq.—Fruit. [Its rough leaves used for polishing wommeras, etc.] KYI, Ckn., C. Bd., de-bor; KMI, mo-injal; KRA, murrutia.
Ficus orbicularis (var.)—Fruit. [Fibre-twine.] NGG, mo-i.
Ficus pilosa, Reinw.—Fruit. KUG, barrowa.
Ficus platypoda, A. Cunn.—Fruit. [Fibre-twine.] KYI, C. Bd., berdiga; Ckn., maramú-ga; KRA, ampé-swan; KWA, la-anga.
Ficus pleurocarpa, F. v. M.—Fruit. [Bark for blankets.] NGI, CHI, NGA, kurpi.
Ficus retusa, Linn.—Fruit. KUG, tanduli.
Ficus stenocarpa, F. v. M.—Fruit. KUG, ke-ril.
Ficus Thynneana, Bail.—Fruit. KUG, dorndorii.
Ficus vasta, F. v. M.—Fruit. Mitchell and most coastal rivers. (E. Palmer.)
Fluggea obovata, Wild.—Fruit. KRA, ko-wal; KYI, Ckn., C. Bd., go-ika; KYE, Bld., ku-ika, where it is generally squashed in a bark trough; KMI, eramba; NGG, la-kwini-kwi.
Fungi.—On the western side of the Mulligan a sort of truffle, with a yellowish flesh after roasting, appears to be a delicacy. It is very difficult to find, even with the practised eye, a small undulation on the surface of the ground being its only indication. When once it has pushed its way through, it rapidly goes "bad" with the exposure. (J. Coghlan.)
Gahnia psittacorum, Labill.—Leaf-buds are eaten. KYI, C. Bd., Yerer.
Ganophyllum falcatum, Blume.—Fruit. KUG, wurtabak.
Grewia polygama, Roxb.—Fruit. [Medicine.] KRA, ki-lana, kalin-nang; KWA, lá-ala; KYE, B'a. H., par-uo; KMI, kunad; KUN, mokomid; KYI, Ckn., unggerganoin, panggupúryuwo.
Hardenbergia retusa, Benth.—Yam roasted, skin removed, hammered and mixed with water. KUG, pai-a; KYI, C. Bd., gung-an; NGG, ru.
Heleocharis sphacelata, R. Br.—Tubers eaten raw, or baked first and then roasted. On the Pennefather River, besides being eaten raw, they may be thrown into hot ashes for a few minutes, rolled out one by one, and hammered into one big ball. [Mats, dillybags.] KYI, Ckn., C. Bd., and KYE, Bld. ma-bil; KWA, ari-ira; NGG, panjú-a; MAL, bulkuru.
Hibiscus brachysiphonius, F. v. M.—Roots roasted and hammered. [For spears.] NGG, yi-nawara.
Hibiscus divaricatus, Grah.—The young buds are eaten raw, and the thick root is peeled and the skin eaten raw. Cloncurry, Mitchell, Rivers. (E. Palmer.)
Hibiscus peltneus, Linn.—Stem and root of young plant roasted in the ashes. Cloncurry, Flinders, Herbert, Rivers. (E. Palmer.)
Hibiscus heterophyllus, Vent.—Roots of young plants, young shoots, and leaves eatable, without any preparation. (A. Thozet.)
Hibiscus microchlænus, F. v. M.—Roots eaten on the Embley River.
Hibiscus pentaphyllus, F. v. M.—The young buds are eaten raw. Mitchell. (E. Palmer.)
Hibiscus rhodopetalus, F. v. M.—Roots eaten; prepared like the *Typhonium Brownii*. KRA, dai-ru.
Hibiscus, sp.—Roots eaten raw, after being broken between stones. KWA, arbú-i; KRA, ai-ira; KYI, Ckn., and KYE, Bld., markadji.
Ipomœa angustifolia, Jacq.—Rhizome eaten, after being first baked and then roasted. KYE, B'a. H., jollol; KRA, ngi-ala; KWA, ó-wo; KYI, C. Bd., kalborngga, dirndol; KYI, Ckn, kalburunga.
Ipomœa eriocarpa, R. Br.—Rhizome roasted. KYI, Ckn., kand-ja.
Ipomœa gracilis, R. Br.—Rhizome eaten after being roasted (sometimes hammered). KMI, almoi-ira.
Ipomœa grandiflora, Lam.—Yam roasted in hot ashes. NGG, endahari.
Ipomœa Pes-Caprae, Roth.—Rhizome eaten, after being baked and pounded. KYI, C. Bd., waiu-tchor; KYI, Ckn., waiu-ja.
Ipomœa turpethum, R. Br.—The young buds are eaten raw when the seeds are white. Cloncurry. (E. Palmer.)
Ipomœa uniflora, Roem. et Schult.—Rhizome eaten after roasting and pounding. KMI, kon-yara.
Ixora timorensis, Dene.—Fruit. KUG, karantal, kumbarogul; NGG, kwaranam.
Lepironia mucronata, Rich.—Tubers eaten. KUG, chakata.
Licuala Muelleri, Wendl. et Drude.—Base of growing shoot eaten. MAL, chakoro.
Limnanthemum crenatum, F. v. M.—Small round tubers roasted for food. (E. Palmer.)
Limnanthemum geminatum, Greseb.—Tubers roasted or baked. NGG murite.

Livistona australis, Mart.—"Cabbage-tree palm." The growing stem is eaten. The gum, exuding from this tree, is sucked like a lolly by the Morehead River blacks. White part of undeveloped leaves eatable (A. Thozet). [Fibre-twine. Leaf-troughs.] KMI, alkárint; KWA, alkí-an; KRA, araráí-ya; KYI, Ckn., karái (but where it is no longer found); KYI, C. Bd., do-bi.

Livistona humilis, R. Br.—"Heart" hammered and roasted at Red Island. On the Pennefather River, the "heart" is baked in ashes, then uncovered, and holes made in it with a stick. Water is next dribbled into each hole, and the vegetable left to cool. It is finally either beaten up and eaten, or else put into water which it sweetens and is drunk. Red Island, inmuru; NGG, dré-amberi.

Lucuma galactoxylon, F. v. M.—Fruit picked green, buried in ground for a few days, and then eaten uncooked. KUG, murdarka, ngorbai.

Lucuma sericea, Benth. et Hook.—Fruit. KYI, C. Bd., Ckn., mornggo; NGG, morra.

Loranthus exocarpus, Behr.—Fruit raw. Cloncurry. (E. Palmer.)

Loranthus longiflorus, Desr.—Fruit raw. Flinders River. (E. Palmer.)

Maba humilis, R. Br.—Fruit raw. Cloncurry. (E. Palmer.)

Macrozamia Miquelii, F. v. M.—The seeds . . . are baked for about half-an-hour under ashes; the outside covers and the stones are then broken, and the kernels, divided by a stroke of the "kondola" [pounding-stone], are put into a dilly-bag and carried to a stream or pond, where they remain six or eight days before they are fit for eating. (A. Thozet.)

Malaisia tortuosa, Blanco.—Seed roasted and eaten at Cooktown. [Mops. Fibre-twine.]

Marsilea Drummondii, Braun.—"Nardoo." The hard-shelled seed [spore-cases], easily and speedily collected from the plant when growing in marshy swamps, is pounded and broken up with a special stone, etc., previous to grinding. Boulia. (Cloncurry.

Melaleuca sp.—Blossoms sucked for honey on the Georgina, Lynd, etc., Rivers. Water is obtained from the bulges in the dry season. [Blankets.] KYI, C. Bd., bo-du; KYI, Ckn., put-yo; KWA, tu-a; NGG, rdí-i; KMI, mor-ngi.

Melastoma malabathricum, Linn.—Fruit. KYI, C. Bd., di-eni.

Melodorum Leichhardtii, Benth.—Fruit. (A. Thozet.)

Microstemma tuberosum, R. Br.—Tubers eaten, both raw and roasted. KYI, C. Bd., warboboga; KYI, Ckn., and KYE, Bld., warabú-ga; KRA, angká-ala; KMI, aká-la; KWA, ar-tir.

Mimusops Browniana, Benth.—Fruit. The colour of the fruit is more or less red on the tree, and in that condition is usually eaten. At Cape Bedford, however, especially when brought over from the islands where, owing to the scarcity of water, the natives cannot stay long, the fruit is collected, and put into a hole in the ground with tea-tree bark below, and leaves, earth, or grass above: in about a couple of days the fruit turns black, when it is considered fit to eat. KWA, andú-a; KYI, C. Bd., ngundar; Horn and Thursday Island, u-bar.

Mimusops parvifolia, R. Br.—Fruit. KUG, wái-imbal, wimbal.

Morinda citrifolia, Linn.—Fruit. KYI, C. Bd., dogontcha; Ckn, tokunja; KYE, Bld., tokonjaga; KRA, ko-onjirang; KWA, alái-in.

Musa sp.—"Banana." Fruit. KYE, Bld. (scrub-banana), jattermo; KYE, Bld. (forest-banana), kulnjur.

Myrsine crassifolia, R. Br.—Fruit. KUG, márada.

Nelumbium speciosum, Willd.—Seeds broken with a stone, and eaten raw. Cooktown. Rockhampton. (E. Palmer.)

Nymphæa cærulea, Savigne.—

(1.) Rhizome roasted. KYI, Ckn., C.Bd., and KYE, Bld., de-kir; KMI, alkór-ma; NGI, CHI, NGA, mó-karu; NGG, aráu-u. On the Morehead River they pass under distinct names, according as they are young or old specimens, *e.g.*, KRA, taré-uma and andu-émma, respectively.

(2.) The seeds are baked in their pods, in "ovens" made of stones or pieces of ant-bed, covered with strips of tea-tree bark, over which ashes and sand are placed. When the pods become soft, the seeds are ready for eating (with their husks). The husks, however, may be removed by baking somewhat longer, rinsing the seeds in water (when some of the husks will float to the surface), pouring off the water, and grinding the mass between two stones. The mass is rinsed again, and ground again, and so alternately rinsed and ground, until such time as the water from the pasty mass is comparatively clear. KYI, C. Bd., nguri; Ckn., nganka; KMI, aché-ra; KRA, yarbadtha.

Nymphæa gigantea, Hook.—Rhizome and seed eaten: prepared like *N. cærulea*. E. Palmer says that the porous seed-stalk is peeled and eaten raw, also roasted. KRA, duché-ra; KWA, angkái-a; KYI, Ckn., C. Bd., nga-wuro (tuber), mumba (seed).

Oryza sativa. Linn.—"Wild Rice." The plants are collected, tied into bundles, and kept some considerable time under water: at last, they are taken out, dried, shaken, and the seeds winnowed—these are then ground between two stones, etc., and the pasty mass cooked like a "damper." KWA, anbó-a, kwang-an; MIT, mokomurdo; KRA, arí-yuma; KYI, Ckn., jikan.

Owenia acidula, F. v. M.—Fruit raw. MIT, eldin, uroka.

Owenia cerasifera, F. v. M.—Fruit (sarcocarp) eaten. (A. Thozet.)

Pandanus aquaticus, F. v. M.—Fruit. Mitchell, Gilbert, Palmer Rivers. (E. Palmer.)

Pandanus, sp.—"Bread-fruit." "Screw-Palm." Fruit sucked, shell broken, and seed eaten: however, unless very ripe, the fruit is roasted in the ashes previous either to sucking (it being too "hot") or to soaking in water, which becomes sweetened and is drunk. [Armlets. Mats.] KYI, C. Bd, birko, monggan, ngurlaga; KYE, B's. H, na-rárl; KYI, Ckn., jibugai, monggan; KYE, Bld. (fruit), jillénji; KRA, a-rárla; KWA, arú-ol; NGG, akáo-dra; MAL, pi-ma; KUG, kunggi.

Panicum decompositum, R. Br.—Seed winnowed and ground, and cooked like a "damper." MIT, tindil.

Parinarium nonda, F. v. M.—Fruit. KRA, rarn; KWA, arórn; NGG, mor-rn; KYI, C. Bd., Ckn, wo-inya.

Passiflora fœtida, Linn.—Fruit eaten. The Cooktown blacks tell me that this plant has only come here of recent years: they call it nór-ro, a term signifying apparently any kind of creeper. MAL, bata.

Parsonia faleata, R. Br.—Fruit. KRA, ki-enn; KWA, arnáu-unta; KYI, Ckn., C. Bd., ta-pun.
Phaseolus Mungo, Linn.—Rootstock baked. (A. Thozet.)
Physalis minima, Linn.—Fruit. Upper Cloncurry River. (E. Palmer.)
Piper Rothiana, Bail.—Fruit raw. Atherton.
Pipturus propinquus, F. v. M.—Fruit. (A. Thozet.)
Pithecolobium moniliferum, Benth.—Pods roasted when young. Mitchell River. (E. Palmer.)
Plectronia barbata, J. Hook.—Fruit. KYI, Ckn., C. Bd., billubal; KYE, Bld., marko.
Plectronia edorata, F. v. M.—Fruit. KYI, Ckn., C. Bd., ngamal.
Plaiogynium Solandri, Engler.—"Burdekin plum." Fruit. KYI, Ckn., and KYE, Bld., kórroi.
Podocarpus alata, R. Br.—Fruit. KUG, dalgal.
Podocarpus pedunculata, Bail.—Fruit roasted, rolled, and rubbed between two stones, mixed with a little water, and eaten. NGI, NGA, CHI, chupolla.
Polyalthia nitidissima, Benth.—Fruit. (The "wa-a" of Thursday Island.) NGG, manguru.
Polygonum hydropiper, Linn.—Flinders River natives eat the coarse stalks after being roasted and peeled. (E. Palmer.)
Portulaca australis, Endl.—Rootstock eaten roasted. NGG, me-nama.
Portulaca napiformis, F. v. M.—Seeds and rootstock eaten. PPT, karidilla.
Portulaca oleracea, Linn.—In the Bonita district this may be eaten raw in its entirety, or only the seed used. The latter is obtained by taking a goodly-sized bunch and rubbing it between the two hands held more or less horizontally, the seed dropping through the interdigital spaces into a wooden bowl; it is subsequently washed, ground, and eaten raw. (E. Palmer, on the Cloncurry and Mitchell, says the stalks are eaten raw or roasted.) PPT, kuni.
Pothos Loureiri, Hook. et Arn.—Fruit eaten after roasting at Atherton, but raw on the Tully. NGI, CHI, NGA, kuyu; MAL, koi-yo.
Psoralea hudocana, Benth.—Roots eaten, after being scraped and roasted. KRA, a-méga; KWA, algú-ran.
Psychotria Simmondsiana, Bail.—Fruit. NGI, bulbono; CHI, NGA, bonbono.
Pygeum Tunerianum, Bail.—Nuts eaten. On the Bloomfield River, it is in season from January to March. It is only used quite fresh, as the fruit-husk must be over the shell. The whole thing—fruit-husk, shell, and kernel—is pounded up together, sifted through a palm-tree dilly-bag, after which the resulting meal is damped, kneaded into cakes, wrapped up in wild-ginger leaves, and baked in the ashes (B. Hislop). KYE, Bld., janda.
Randia Fitzalani, F. v. M.—Fruit. KYE, Bld., ká-mar (where it is eaten raw when ripe: baked in the ashes when green—B. Hislop); KYI, Ckn., pepájarin.
Rhaphidophora Lovelli, Bail.—Stems. MAL, naja.
Rhodomyrtus macrocarpa, Benth.—Fruit. KYI, C. Bd., wannakai; KYI, Ckn., kátharjir; KYE, Bld., kulburadji (where it is eaten raw, or baked in the ashes—B. Hislop); KUG, yaraju.; MAL, yaran.
Rubus rosæfolius, Sm.—Fruit. (A. Thozet.)
Santalum lanceolatum, R. Br.—Fruit. Cloncurry, etc. (E. Palmer.)
Sarcocephalus cordatus, Miq.—"Leichhardt tree." Fruit. KYE, Bld., and KYI, Ckn., ká-pal; KMI, KRA, pó-anja; KWA, alnáu-ur; MAL, puru-puru.
Schmidelia serrata, DC.—Fruit. KRA, ni-fra; KYE, B's. H., win-ya; KUG, panguru.
Scirpus littoralis, Schrad.—Roots eaten, after roasting and hammering. KYI, Ckn., kalpara, pá-ral; NGG, pró-atba; Red Island, au-gñtanara.
Semecarpus australiensis, Engler.—Ripe fruit picked off the ground, skewered, roasted on ashes, and eaten. If eaten raw, produces sore lips, and if on broken skin, said to produce pain and swelling. KUG, wagaru; KYI, C. Bd., dalmba; KYI, Ckn., jainba.
Sideroxylon Brownlessianum, F. v. M.—Fruit. KYE, Bld., wanakau.
Sideroxylon chartaceum, F. v. M.—Fruit eaten (after roasting at Atherton: elsewhere) raw. NGI, CHI, NGA, moi-úri; KRA, á-li; KWA, á-lan; KYI, Ckn., pálain.
Siphanodon pendulus, Bail.—Fruit. KYI, Ckn., C. Bd., bambubal; KMI, agúridal; KRA, ugarwowóya; KWA, altira-ún-ga.
Solanum esuriale, Lindley.—Fruit eaten raw and roasted. Cloncurry, Flinders River. (E. Palmer.)
Sporobolus actinocladus, F. v. M. This is cut down, tied into small bundles, taken down to the nearest waterhole, and dipped under, just for a minute or two: the bundles are next laid out to dry in the sun for a quarter of an hour or so, but to prevent the desiccation taking place too rapidly, especially on a very hot day, they may be covered over with some other grasses or bushes. When the moisture has been sufficiently removed, each bundle is firmly held by the stalk-portion with one hand, while the head-portion is gently brushed over and squeezed with the other, the seed so loosened being allowed to fall into the water contained in a wooden bowl beneath. The water is drawn off subsequently by tipping up the vessel, and so letting the fluid escape through the interdigital spaces of the hollowed hand; the seed itself is then dried again before being ground and made up into a "damper." PPT, katura.
Sporobolus indicus, R. Br.—Prepared similarly to the preceding. MIT, jilgrubari.
Sporobolus Lindleyi, Benth.—Prepared similarly to the preceding. PPT, yákkapari.
Sterculia candida, Hew.—Fruit, roasted and eaten. [Fibre-twine.] KRA, ni-alkal; KWA, kellun; KYI, Ckn., kornun (though not now met with here).
Sterculia Garrawaya, Bail.—Fruit. KMI, morna.
Sterculia quadrifida, R. Br.—Seeds raw: roots roasted, and, after the skin is broken, eaten. [Fibre-twine.] KYI, C. Bd., gorarbac; KYI, Ckn., koralba; KUG, mam-bin; NGG, nihé-a.
Sterculia runiflora, Benth.—Seeds roasted. KRA, al-mún; KWA, an-gi-a; KYI, Ckn., jimmar (but not found in neighbourhood now).
Sterculia rupestris, Benth.—Roots of the young trees are eaten, mostly over all North Queensland. (E. Palmer.) Seeds eaten.
Sterculia trichosiphon, Benth.—Roots of young trees eatable, also seeds. (A. Thozet.)

Tacca pinnatifida, Forst.—Tubers eaten. On the Bloomfield, etc., this tuber is baked in the ashes, mashed up, rolled in ginger-leaves, and then baked (R. Hislop). At Red Island it is soaked, hammered, and roasted. On the Morehead and Musgrave Rivers, I have seen it prepared as follows:—The tubers are rubbed up against a rough stick, see Fig. 4 facing after the method of a "nutmeg-grater") into a bark-trough containing water. The mixture is next put through a "sieve" formed of an infolded dilly-bag; it is squeezed through this into some fresh water contained in another trough. Here it is allowed to settle, for which some time is required, then washed once or twice, the water allowed to run off, and the remaining sediment scraped up with a shell, and then cooked in hot ashes like a "damper." At Cape Grafton, the tubers are pounded between stones, put in water all day, the sediment removed and cooked on hot ashes. On the Palmer, it is prepared as on the Morehead and Musgrave; but when the white mush has settled in the final washing, the water is carefully drawn off, and the mess very gingerly poured onto some sand, which allows the fluid to percolate through. This white mess, now fairly coherent, is next taken in the hand and made a ball of. After being roasted in the ashes for some few minutes, its hardened exterior is skinned off, Fig. 5, the (inner surface of this) peel being again put on the ashes. The ball itself is again similarly roasted, peeled, and so gradually made up into something like four or five "pancakes" which, after roasting, are then ready for eating. On the Pannefather River, it is scraped onto a rough piece of wattle bark, like a nutmeg scraper, into a shell. Then collected on to a thick bundle, 2 to 3 inches thick, of fine dead grass (sp. of *Paratia* and *Panicum*) as a strainer, and water poured on until all the cellular *débris* is left behind. The milky water is next allowed to settle, perhaps a day, the clear water run off, and the remaining flour then dried and carried about in a big hard ball. Then scraped off as wanted, and roasted on the hot stones like a pancake. KYI, Ckn., *wi-tan*; KYE, Bld., pi-anggal; KRA, angki-yu; KWA, arró; KMI, alké-imba; KUG, chul-ngo, *chulu-kono* (small variety); NGG, ni-u; Red Island, antitha.

Terminalia catappa, Linn.—Fruit: the shell is broken, and nut eaten raw. KYI, Ckn., C. Bd., tommin; NGG, anyu-o.

Terminalia microcarpa, Dene.—Fruit. NGG, draiputo.

Terminalia oblongata, F. v. M.—Fruit. (A. Thozet.)

Terminalia platyphylla, F. v. M.—Fruit raw. Flinders, Gloucurry, Gilbert, Mitchell Rivers. (E. Palmer.)

Terminalia sericocarpa, F. v. M.—Fruit. KYI, C. B., ngú-go-ro; KYI, Ckn., ngorkurn; KYE, Bld., jiujajalga.

Tribulus Solandri, F. v. M.—Roots eaten, roasted. NGG, longarate.

Trichosanthes palmata, Roxb.—Yam or rootstock roasted and eaten. Gloucurry. (E. Palmer.)

Triglochin procera, R. Br.—Tubers eaten, baked. KYI, Ckn., C. Bd., wanno; KRA, anámun; KWA, anéma.

Typha angustifolia, Linn.—Young leaves and roots are edible. (E. Palmer.)

Typhonium angustilobium, F. v. M.—The tubers are roasted and broken with a stone, pounded a good deal, and roasted several times before using. Mitchell, Lynd, and Pennefather Rivers. NGG, wu-ri.

Typhonium Brownii, Schott.—Tubers eaten. If raw, they produce a burning sensation like a chili. They are roasted for a minute or two on the ashes, then pounded between two stones, roasted again and pounded, and so alternately for a good ten minutes or more until they come out finally of the consistency of a piece of indiarubber. KWA, tá-lamba, alké-imba; KRA, algain-ba; KYE, B's. H., kanmi; KYE, banijai; KYI, Ckn., mallamó-ga.

Vigna lanceolata, Benth.—Roots eaten. MIT, maluga.

Vigna luteu, A. Gray.—Roots eaten, roasted. KRA, andáu-ga; KWA, ará-ra; KYE, B's. H., balcha; KYI, Ckn., pé-pe-in.

Vigna vexillata, Benth.—Roots roasted. NGG, tu-e.

Vilex glabrata, R. Br.—Fruit. KYI, Ckn., C. Bd., koná-ra; KYE, Bld., wong-ur.

Vitis acetosa, F. v. M.—Fruit eaten raw by the Cooktown blacks. Rootstock hammered and roasted, eaten by the Koko-yarmut and Koko-wara (not by Cooktown) natives. KYI, Ckn., kang-ga, C. Bd., gang-gu-rur; KYE, B's. H., mon-dol; Bld., gang-a; KMI, achoalla; KUN, rábbab; KWA, anjigal; KRA, ini-ya; NGG, mkáu-nu.

Vitis clematidea, F. v. M.—Rootstock eaten, after roasting, hitting between stones, etc. KYI, Ckn., morber; C. Bd., bu-yan.

Vitis opaca, F. v. M.—Rootstock roasted at Cooktown: berries eaten at Red Island. KYI, Ckn., pinnaka; Red Island, ampo-ano.

Vitis trifolia, Linn.—Rootstock eaten. Roasted on the ashes lying over heated ant-bed "chunks" or stones. The ashes are subsequently removed, the roots left on the ant-beds, etc., and covered with a sheet of tea-tree bark, over which are placed ashes and sand, and left to bake. The thick cortical substance is removed before eating. KMI, lorwora; KUN, takking; KRA, tampara; KYE, B's. H., pulkun; KWA, lean.

Xanthorrhœa arborea, R. Br.—"Grass-tree." The bases of the young leaves are eaten raw; also the extremities of the young shoots. KMI, kwanja; KWA, an-gá-tan; KRA, ramka; KYI, Ckn. C. Bd., pungga; KYE, Bld., ngang-ir.

Ximenia americana, Linn.—Fruit. KUG, gotoba, kai-ko.

Zizyphus jujuba, Lam.—Fruit. (A. Thozet.)

10. Ants.—Green ants, as well as their larvæ, are eaten as food both by men and women, and at Princess Charlotte Bay, Cooktown, Bloomfield, etc., are in addition used as medicine (*e.g.*, in diarrhœa, headache, etc.). At Princess Charlotte Bay and Cooktown, I have seen the nest cut down and opened on a piece of stone or rock whence the green ants scatter about in all directions, leaving the white larvæ behind. Any remaining ants are removed by putting the fingers into it, letting them crawl up the arm, and rubbing them briskly off. The white larvæ are then collected into more or less of a ball, rubbed a bit between the flats of the hand, and swallowed. If in large quantity, and a "big feed" wanted, the larvæ from two or three nests are collected into one big ball, crumpled over with leaves, washed in water, and then eaten. The "washed" water may be also drunk. At Cape Bedford, ashes are put into the water

when the ants are kneaded. On the Bloomfield (R. Hislop), the nests are pulled down and their contents shaken into a piece of bark or large leaf, and are slightly kneaded so as to prevent the grown ants getting away. The mass of squashed ants and eggs is then squeezed into a trough containing water, which makes the water look as if milk had been added to it. This liquid is sopped up by means of chewed grass, while the remains of the ants and eggs are eaten. Saltwater is preferred to fresh to mix the ants up in, and the nests are considered more palatable when there is a preponderance of eggs over ants. The "queens" are eaten without being squashed. It is interesting to note that on the Bloomfield, as well as at Cooktown, etc., the chrysalis of a lepidopteron, *Lyphira krausalis*, is found in the green-ant nests. The Bloomfield blacks, who call it bi-i bi-i, consider it a great delicacy, while the Cooktown natives, who speak of it as ged-ya, break it up in water, drink the mixture, and say it is very good for bad constipation. The lower Tully River natives utilise the green ants mainly as food, but also as medicine. The insects—the young larvæ at least—are either squashed up in water and drunk or else rolled up, in the dry, in "wild-ginger" leaves and baked.

White ants, as well as green, are eaten in the Cloncurry and Boulia districts raw. The individual stands or stamps upon an ant-bed from which these creatures will run up his legs and thighs and get scraped or swept off as they come up and as quickly transferred to the mouth.

The larvæ of certain small black ants are also eaten raw or baked on the lower Tully.

11. Bees (Honey). Wasps (Larvæ).—To learn where the honey is, bees may be hunted by sight. In the N.W. Central districts honey is sought for by one or other of the following methods: - Its locality in the particular tree is tracked, during the winter time by watching carefully for the minute pellets of dung lying on the ground around the butts; in the summer months by observing the bees going in and out of their nest, and on occasion by putting the ear down to some natural orifice at the base of the tree and listening for the insects' hum and buzz. The trunk is often tapped lightly with the fingers, or with a stone, for indications of a hollow core—a likely situation for a nest. On the (middle) Palmer the insect may be caught in the open, when its body will be smeared with iguana or snake-fat, and some hawks', etc., feather-down stuck on; it is then let loose and followed home. (Inspector Marrott says that he saw a Bowen boy following this method in 1874 on the Herbert River.) The Tarkalag blacks on the Lynd River during the wet season locate the nest by watching for the pellets of dung at the foot of the tree. In the Princess Charlotte Bay district the aboriginals distinguish the young from the old brood. Honey from the former is considered a special delicacy, and reserved usually for the older men. The lower Tully blacks collect honey from one species of bee only: this is usually mixed with water and drunk, but never kept long enough to ferment. When once the honey is found, mops and sponges (to be subsequently described) are very commonly employed to get it out and so save the labour of cutting away the timber, etc. I have not met with English bees anywhere to the west or north of the Jeannie River (Princess Charlotte Bay). South of this, the blacks here and there "smoke" them, having probably seen the example set by Europeans.

Wasps' larvæ are eaten on the lower Tully, and obtained as follows:—The nest is guardedly sneaked up to, and a bundle of fired grass or tea-tree bark held just underneath: this kills or puts to flight the mature insects, when the comb is immediately pulled, and the larvæ picked out and eaten raw.

12. Other Insects, Grubs, Caterpillars, etc.—Certain longicorn Coleoptera are eaten by the natives on the upper reaches of the Embley River. March flies are often treated similarly with by the Tully River children, etc. Grubs are hooked out of tree-butts and roots by means of the "feelers" of the lawyer cane (*Calamus*), or else by sawing into soft and rotten timber with a piece of lawyer after the manner of a crosscut, Fig. 6. Both procedures are in vogue on the lower Tully, where the blacks eat these grubs raw or roasted. In the Boulia and Cloncurry districts the smaller kinds of grubs and caterpillars, especially those found on grass (MIT, PIT, kapara), may be eaten raw and whole: the larger varieties, found in trees (PIT, kaloorangora), are usually roasted, their heads not being eaten, or may be dried in the sun and put away for future occasions. E. Palmer states that on the Mitchell and Cloncurry the natives utilise a grub contained in the galls growing terminal on young trees of *Eucalyptus tetrodonta* and *E. corymbosa*.

13. Crustaceans.—On the lower Tully River, shrimps and prawns are caught by two or three different means. In the river, when about half-flood, women will wade in and root up with their hands the bundles of water-grass, which they throw on to the bank: in and out among the blades of grass so uprooted they often pick up the crustaceans. Again, when the river is similarly at half-flood, women may take a dilly-bag with them into the water, and, putting the mouth of this vessel close onto one side of each tussock, drive the shrimps into it by a movement of the hand held on the other side. At the mouth of the river, at certain tides—*e.g.*, spring-tides—these animals swarm in such numbers as to give a reddish appearance to the water-surface, and come in close towards the beach. When they do so, the blacks (males) wade in and scoop them up into very long wicker (split lawyer-cane) baskets: these are known locally as cluta, and are made up to 10 and 12 feet long on similar pattern to the fish-baskets of Atherton (Sect. 15*b*). Shrimps and prawns, besides being utilised as bait, are eaten subsequent to baking in ginger leaves or tea-tree bark.

Crayfish are caught with the hands, in nets, or, as on the Musgrave, etc., in lugs (sect. 15*g*).

Crabs in many districts are, as a rule, only hunted for by women and youngsters. At Cape Bedford, crabs are believed to be no good except when caught at the full moon; at other times they are certainly not sought for here, though were one to be accidentally met with it would assuredly be captured and eaten.

14. Molluscs.—The accompanying list of edible molluscs must be accepted with similar reservations as already notified with regard to plants. The large majority of these shell-fish are roasted in the ashes: a few may be eaten raw.

Anomia elgros, Gray.—NGG, ngarmbunya.
Arca granosa, Linne.—Embley and Hey Rivers.
Arca navicularis, Bruguiere.—NGG, ko-clana.
Arca pilula, Reeve.—NGG, arú-itidi. [Also for baby-rattles.]

Arca scapha, Chemnitz.—NGG, té-uma, arú-teri; KYI, C. Bd., woggo; KYE, Bld., bu-e; KUG, jamba ko-ialla.
Arca semitorta, Lamarck.—KYE, Bld., gal-gil; KUG, changurai.
Asaphis deflorata, Linne.—KYE, Bld., gir-bar.
Atactodea mitis, Deshayes.—NGG, andró-e; KUG, kerpo.
Auricula aurisjudæ, Linne.—KYE, Bld., yalu-babbinja.
Cardium vertebratum, Jonas.—NGG, mó-anga-i. [Also used as a painter's graining-comb in painting the body.]
Cassidula angulifera, Petit.—NGG, mó-i.
Cassis arcola, Linn.—Kye, Bld., bung-on.
Cassis coronulata, Sowerby.—NGG, pera-te; KUG, chi-nginya.
Chama pulchella, Reeve.—NGG, trainapu-gwe.
Circe gibbia, Lamarck.—KUG, te-rangai.
Circe scripta, Linne.—KUG, koi-koi.
Conus trigonus, Reeve.—NGG, dé-vi dé-vi. [Large-sized ones after chipping, etc., form chest ornaments.]
Cultellus sp.?—KUG, bilka.
Cypræa arabica, Linne.—KUG, kunggaga.
Cyrena jukesii, Deshayes. [Also scraper, drill, bark-cutter, etc.] MAL, magore; NGG, on-yi; KYI, C. Bd., do-angka; KUG, mokere; Ckn., bain-bai; KYE, Bld., dargai, yulba.
Cytherea gibbia, Lamk.—KYI, C.Bd, barmor; KYE, Bld., ngolo-moko.
Cytherea meretrix, Linne.—NGG, andró-i.
Dolium latisulcatum, Martini.—KUG, ke-a-wai.
Dolium variegatum, Lamk.—KUG, ger-we.
Donax faba, Chemnitz.—NGG, adú-ichimba-gwe; KUG, chulkai.
Donax lineolatus, Valenciennes.—KUG, be-a.
Fusus proboscidalis, Lamk.—NGG, pundara. [Nose-pins, water-vessels.]
Glyphus sp.—NGG, ngar.
Gyrineum affine, Broderip.—KUG, ku-in-gan.
Haliotis ovina, Chemnitz.—KYI, C. Bd., kana-ungkun.
Latirus craticulatus, Linne.—KUG, yawara.
Littorina filosa, Sowerby.—KUG, moigor-moigor.
Lutraria philippinarum, Deshayes.—NGG, cheranganama.
Mactra dissimilis, Deshayes.—NGG, dó-wawauna.
Mactra maculata, Chemnitz.—KUG, chi-boi.
Mactra obesa, Deshayes.—NGG, tré-a.
Malleus vulsellatus, Lamarck.—NGG, ton-dro.
Meleagrina margaritafera, Linne.—NGG, wú-idi. [Forehead bands, etc.] KYE, Bld., mi-laur.
Melina Cumingi, Reeve.—KYE, Bld., jonaron.
Melo diadema, Lamk.—NGG, pé-ra. [Wommera-hafts, vessels, etc.] KYI, C.Bd., dir-kai; KUG, ji-gai.
Meretrix erycina, Linne.—Cape Bedford.
Mitra caffra, Linn.—KUG, jú-go-gan.
Mitra vulpecula, Linne.—KUG, kwinggan.
Modiola albicostata, Lamarck.—NGG, láng-anana.
Monodonta labio, Linne.—KYI, C. Bd., bai-tchen.
Murex adunco-spinosus, Beck.—Cape Bedford.
Murex adustus, Lamarck.—NGG, damandama.
Mytilus hirsutis, Lamarck.—KUG, mokul-mokul.
Mytilus horrida, Dunker.—NGG, wí-pi-che; KYI, C. Bd., moi-yor-gin-gil.
Nassa unicolorata, Kiener.—NGG, trú-no.
Natica bicolor, Philippi.—NGG, ró-anggate; KUG, ko-inggar.
Natica mamilla, Linne.—KUG, kúlgarabara.
Natica plumbea, Lamarck.—KUG, morol-morol.
Nerita costata, Chemnitz.—KYI, C. Bd., moku-burnu.
Nerita lineata, Chemnitz.—NGG, tó-ri; KYE, Bld., ngara-kadja.
Nerita planospira, Anton.—KYE, Bld., moko-darai.
Oliva ornata, Marrat.—KUG, tabul.
Oliva tremulina, Lamk.—KUG, kúngaga.
Ostræa glomerata, Gould.—NGG, kantaga; KYE, ni-gur.
Ostræa mordax, Born.—KYE, Bld., gi-run, marbo.
Ostræa mytiloides, Lamarck.—KUG, je-rom.
Ostræa nigromarginata, Sowerby.—KUG, challa.
Pecten gloriosus, Reeve.—NGG, nyuro-nyunama.
Perna Cumingii, Reeve.—KUG, we-ta. [Also for knives and fish-hooks.]
Pinna menkei, Hanley.—NGG, tai-peri.
Placuna placenta, Linne.—NGG, ngármarate; KUG, wi-ro.
Potamides fuscum, Schumacher.—KYI, C. Bd., wa-dur.
Potamides semisulcatus, Bolton.—KYI, C. Bd., ta-galgal; KYE, Bld., bar-bi.
Psammobia bessoni, Blainville.—KUG, tualim.
Pterocera lambis, Linne.—KYI, C. Bd., manigai.
Purpura amydala, Kiener.—NGG, trú-no.
Purpura bufo, Lamarck.—KUG, kipaga.
Purpura hippocastaneum, Lamk.—KYI, C. Bd., wandi-ngan.
Pyrula foliacea, Linne.—NGG, pandara-te.

Solarium perspectivum, Linne.—KUG, charin.
Spondylus Victoriæ, Sowerby.—Cape Bedford.
Spondylus violascens, Lamk.—NGG, nyú-ro-gwe.
Strombus Campbelli, Gray.—NGG, ying-ko. [Also for baby rattles.]

Tapes hiatinus, Lamk.—NGG, yé-o.
Tapes Schnelliana, Dunker.—NGG, arún-jo.
Tellina sulcata, Wood.—KUG, koi-iko.
Tellina truncata, Jonas.—NGG, lai-kana.
Thersites Barneyi, Cox.—NGG, tó-ri.
Thersites bipartita, Ferussac.—KYI, Ckn., ko-mo; NGI, kau-al.
Trochus bicarinatus, Angas.—NGG, au-gár-gana.
Trochus niloticus, Linne.—KYI, C. Bd., dobbi.
Turbo foliaceus, Philippi.—NGG, in-já-tru.
Turbo porphyrites, Martyn.—KYI, C. Bd., da-rn.
Turritella cerea, Reeve.—NGG, mbrurr-i.

Unio sp.—KUG, wambiram.

Venus Lamarckii, Gray.—NGG, bá-angkana.
Venus puerpera, Linne.—NGG, on-yi-te. Cape Bedford.
Venus striata, var. *caledonica*, Bernardi.—KUG, ko-pun.

15. Fish are caught by one or other of the many following methods:—

(*a*) **Transfixion with the feet** is common on some portions of the Georgina River, and in certain other creeks, wherein the aboriginals will grope carefully along the mud, and so transfix with their feet a sort of "cat fish" to be found there.

(*b*) **Muddying or Puddling** of the water by the feet, in small shallows, and hitting or spearing the fish as they come up, is a common procedure everywhere.

(*c*) The practice of "**Poisoning**" the water by special plants and capturing the fish as they rise to the surface is fairly common. The following constitute some of these so-called fish-poisons:—

Acacia salicina, Lindl., *v. varians*.—"Mentioned by Sir T. Mitchell for poisoning the fish in small lagoons, and Mr. Hill says that the natives of the Fitzroy River (Q.) put it to a like purpose." (J. H. Maiden, *Agricultural Gazette*, New South Wales vol. 5, 1894, p. 470.)

Adenanthera abrosperma, F. v. M.—The bark is thrown into the water. (middle) Palmer River. KMI, rokowara.

Barringtonia racemosa, Gaudich.—The bark is hammered between stones till it gets quite spongy, and then taken into the water, where it is rubbed with the hands. Fish are stupefied in about a quarter of an hour. Bloomfield (R. Hislop), Cooktown. (E. Palmer speaks of its use on the Mitchell, Laura, and Lynd Rivers.)

Careya australis, F. v. M.—The leaves are used on the (middle) Palmer River as also on the Gulf Coast between the Nassau and Staaten Rivers. "Bark of the root is used as a fish-poison beaten up fine. J. Morrell mentions the same of the blacks on the Burdekin. They used the bark of the stem to poison fish in fresh water, and the bark of the root for salt water."—(E. Palmer.)

Derris uliginosa, Benth.—The stems are hammered on a stone or log (during which operation there emanates a peculiar smell), put up into bundles and roasted, and finally thrown into the water which it renders more or less soupy. It is thus used at Cooktown; on the (lower) Tully River the leaves are rather employed, especially for eels. KYI, Ckn., mokorja; MAI., mara.

Diospyros hebecarpa, A. Cunn.—Numbers of the fruit are collected and tied up into long bundles; each black takes a bundle, warms it over a fire, and then squashes it in the water. Cooktown, Cape Bedford, Bloomfield, Cape Grafton. KYI, Ckn., C. Bd., ko-lin; KYE, Bld., ngam-boi; KUG, julukn.

Eucalyptus microtheca, F. v. M.—In the North-West Central districts, especially in large water-holes, I have often watched the process. The whole camp may co-operate, and will start throwing the leafy boughs and branches in, first thing of a morning; during the day the water becomes darker and darker and strongly-smelling until by the following morning at sunrise, when it is almost black, the fish all lie panting at the surface, and are easily caught.

Eucalyptus reinifera, Sm.—The leaves are thrown in, and left for from one to three days according to the size of the pool. (middle) Palmer River. KMI, ro-angga. These same blacks also employ another Eucalyptus (KMI, bwanni)—an "iron-bark"—in similar manner, and acting more rapidly.

Faradaya splendida, F. v. M.—Used for small fish in water-holes which are drying up. MAI., buku.

Galactia tenuiflora, Bail.—The bark is used on the Musgrave River. KRA, mornilian.

Garcinia Cherryi, Bail.—Bark, etc., put into water from midday to sunset. NGI, NGA, CHI, jo-wor.

Luffa ægyptiaca, Mill.—"Used to poison fish when green. Mitchell, Gilbert, and Einasleigh Rivers." (E. Palmer.)

Melia composita, Willd.—A plant employed on the (lower) Tully River by the Walmal blacks, who speak of it as kilrain. The bark, leaves, and other tender parts are broken up so as to get the juice to exude: it acts fairly rapidly.

Polygonum orientale, Linn.—"Mr. C. Hedley has a note in the Proc. Roy. Soc. Qu. vol. 5, in which he states that a species of *Polygonum*, probably *P. orientale*, was pointed out to him as one of the plants which the Port Curtis blacks use in obtaining fish, and that when a quantity of it is pounded up and thrown into a water-hole it rapidly brings all the fish to the surface in a dying condition, without impairing their wholesomeness as food." (J. H. Maiden, *op. cit.*)

Pongamia glabra, Vent.—After being roasted, the roots are beaten up on a stone, tied into bundles, and thrown into the water, which turns somewhat greenish: it is put in of an evening, and left there all night. Cooktown, Cape Bedford, and Princess Charlotte Bay. KYI, Ckn., korar; C. Bd., yega; KRA, KWA, jo-ara.

Stephania hernandiæfolia, Walp.—Bruised stems, cut in lengths of about 2 feet, are scattered about in the water of the pool. Nerang Creek, S. Queensland. (J. Shirley.)

Tephrosia astragaloides, R. Br.—Its leaves are crushed and bruised, and whole bundles' full thrown into the water-hole, which may be waist-deep and 20 to 30 feet in diameter. Cloncurry, (upper) Flinders River, etc. MIT, tuta.

Tephrosia rosea, F. v. M.—For fresh-water lagoons. The roots are hammered in the dry, and in large numbers collected into dilly-bags. These are here and there dipped in the water, and, when their contents are moistened enough, the bruised roots are taken out of the bags and thrown into the pool. A fairly rapid method. Pennefather River. NGG, te-uma.

There are some three or four remaining plants already known to me, but which I have not yet been able to get identified :—

Ne-ro (NGG).—Used on the Pennefather River and neighbouring districts in the salt and brackish lagoons. Branches of this are hammered in the dry, and tied up into a bundle around a central stick to hold it with. This is then dipped under the surface of the water, where it is hammered upon by another stick, and the procedure repeated here and there, according to the size of the pool. Finally, as many green ants' nests as possible are thrown in.

Wi-ur.—Name given it by the Walmal coastal blacks at mouth of Tully River. Leaves broken up with the hands, and thrown into small pools. A very rapid method, and said not only to stupefy, but to kill the fish in time.

Kurgan (MAL).—Berries, after being smashed, are put into a dilly-bag and shaken up: the bag is then bobbed here and there in the water. Employed by the scrub blacks of the (lower) Tully River.

Pindirin.—Roots are utilised by aboriginals of (upper) Tully River.

(*d*) **Bobbing**, especially for eels, is a practice met with on the (lower) Tully River. The bait used is a certain ground-worm, up to from 6 to 8 inches long, found under rotten logs and stones. A finely split lawyer-cane is shoved right through the animal, from end to end, and a string attached to the extremity of the cane. Several—up to a dozen—of such impaled worms are thus prepared and tied at their stringed extremities to a main cord attached to the end of a short stick. At night-time, in the neighbourhood of a fire on the banks, this tassel-like bait is bobbed in the water, the hunter waiting until such time as he feels an eel taking a good bite—*i.e.*, fixing its teeth well in. So soon as he is certain of this, he jerks the implement over his shoulder, and with the impetus brought into play the fish is thrown onto the bank. Another method of preparing the bait, without any impaling, is just to thread several of these worms through the head and tail of each, the thread being tied at its extremities, and all the worms brought together into one bunch: the string is next attached to the end of a stick, as before. In this same district, bobbing with a spider's web is employed for catching small fry—viz., fish from 1½ to 2 inches long. There is a very large spider to be met with in these (lower) Tully River scrubs which is known to the Mallanpara as the karanjamara. When the native finds its web, he first of all catches and kills the spider, but carefully preserves its abdomen. He next takes a stick, and with its tip just touches the web all round and round—commencing at its outer limits—and so, gradually defining a smaller and smaller circle, winds more and more of the web onto his stick; he twirls at the same time as he circles, with the result that the spider-web "twine" coiled at the end of his stick derives no inconsiderable amount of strength. The free extremity of this natural twine is dipped into the mucky mess within the animal's abdomen, and then bobbed onto the surface of the water. The fry bite at it very readily, and with each bite its teeth or jaws get stuck together and so hauled out. The twine is dipped again, and the process repeated *ad lib.* Both men and children engage in this bobbing for small fry: it is certainly a very rapid method.

(*e*) On the coast-line in the neighbourhood of the Tully River, the **Sucker-fish**, *Remora*, is utilised as a guide for spearing or harpooning fish, as well as turtle and dugong. This sucker-fish, known to the Mallanpara blacks as kamai, is found usually on the rocks at the outlying islands, and sometimes stuck on their own canoes. It is removed, kept in a canoe, bark-trough, etc., with a little water, and left there for a few days. Then, going out to sea, the native ties a fine twine round the Remora's tail, and as soon as he sights any big fish, turtle or dugong, advances his canoe as far as possible, and drops the sucker-fish overboard. In all probability, the sucker will go straight for the object and attach itself: it acts only as a guide, and tells the hunter the next move of his prey. The aboriginal now plays the line out very guardedly, draws it in with equal care and caution, and as soon as the length submerged reaches a point on the line, previously marked, he knows that he is within striking distance, and, as his quarry comes to the surface, uses the spear or harpoon accordingly. It must be borne in mind that in no sense does the sucker-fish pull the prey into the hands of the hunter: it only indicates the direction in which the harpoon, etc., can be advantageously thrown. There is a record by Jardine, I believe—but the reference is not available to me—of the Remora being put to a similar use by the natives in the early days of Somerset (Cape York).

(*f*) **Fish-hooks** vary both in shape and material of construction, and are fast being replaced by the European article. Weights or sinkers are never used. The most primitive form of hook would appear to be that met with among the scrub-blacks of the (lower) Tully River, which is nothing more nor less than the tendril of the *Hugonia Jenkinsii*, F. v. M., a good illustration of the adaptation of a natural form. As the plant (MAL, katakarkal) gets old, these tendrils become very strong and hard, when they are ready to be removed and attached to the line. The bait, generally shrimp, sometimes small crab, etc., is always tied onto the hook, never transfixed; furthermore, no matter the nature of the bait, it is invariably chewed before use. Similar tendril hooks have been observed among the Geraldton natives. Indeed, both on the Tully and at Geraldton these hooks have been imitated in shape with iron, telegraph, etc., wire, after bending and filing down. Pearl-

shell hooks, of a crescentic shape, I have seen at Cape Grafton and on the (lower) Tully River: at the former locality (in 1898) I witnessed one such during its whole course of manufacture. At Cooktown and neighbourhood nothing is known about hooks of any description to the present-day aboriginals, though certain statements in Lieutenant Cook's Voyages make it clear that the Endeavour River natives originally used them. Tortoise-shell (and cocoanut) hooks were employed by the Keppel Islanders on the occasion of my stay with them in 1897, but were at that time apparently unknown to the neighbouring mainland and (lower) Fitzroy River blacks. The hook (ai-ya) of like crescentic type and up to as much as an inch in its longer diameter has the points very close together; it is attached to the line (angkan) by means of a connecting tea-tree twine (rou), the free extremity of which ties on the bait, usually a small soldier-crab (ranga)—none of these crescentic-shaped hooks ever transfixes the bait. (The soldier-crabs are caught on the sands by just placing across their line of march any stick or twig, against which they stumble and cluster, whence they can easily be handled up into a dilly-bag.) Sub-Inspector Garraway tells me that he saw similarly-shaped tortoise-shell fish-hooks used on the Herbert River in 1883. On the Batavia and Pennefather Rivers, however, the shape of the tortoise-shell hook reminds me of an ordinary bent pin, as used for catching "tiddlers" in childhood days. At Mornington Island I found a 1½-inch nail—with its extremity ground and bent into a crescent—used as a fish-hook. At Princess Charlotte Bay, and along the rivers flowing into it, the hook (KWA terwa, KRA tarubal) consists of a tapering pencil of hard wood, usually *Erythrophlæum Laboucherii*, to the attenuated extremity of which is attached, at a very acute angle, a pointed slip of bone. The particular bone utilised is that obtained from the emu, native-companion, or kangaroo: its material of attachment is kangaroo-tail tendon, and *Grevillea* gum-cement. The line, which I have only noted as being manufactured here from *Leiitona australis* fibre-twine, is attached and fixed with similar means. On the Palmer River, the hook (KMI, kora) is similar to the preceding—a wooden shank and bone barb: the latter is made either from kangaroo-bone, or from one of the spines of the "cat-fish."

(*g*) **Hollow logs** are in great evidence for (cray-fish), eels, and certain fish somewhat resembling "rock-cod," on the hinterland and coast-line of Princess Charlotte Bay. These hollow logs, of *Melaleuca* sp., *Eucalyptus corymbosa*, etc., vary from 4 to 6 or 7 feet in length—some thick, some thin—and are thrown into the water-holes, where they are left for, say, three or four hours, perhaps all day, or until such time as the hunter happens to be passing that way again. At any rate, when it is considered time sufficient, the fisherman will either tread the water, or, if too deep, dive down until he finds the log lying below. This he brings to the surface at an angle, with one hand closing the lower aperture. In this position, notwithstanding the weight of its contained water, the log is brought up to, and held above, the surface, when the contents are allowed to trickle out through the fingers of the hand closing the lower end: whether any fish, etc., is, or is not, inside can thus be easily and quickly ascertained. The first occasion upon which I observed this method of fishing was in November, 1893, at a pool about 18 miles from the Musgrave Telegraph Station, where at one and the same time some ten or twelve lads were working these logs. Both on the North Kennedy, and the (lower) Normanby Rivers I passed several water-holes which showed signs—by the number of logs lying on their banks—of the manner that they had been fished in.

(*h*) **Baskets and Cages.** On the (lower) Tully River, women catch large quantities of small fish, probably fry, with their every-day lawyer-cane dilly-bags. These little fish, during flood time, travel up stream, as close as they can get to the river-bank—following all its indentations—in a column about a foot wide and equally deep. Women bend over at a convenient spot and put down a dilly-bag which, though breaking the advancing column for a minute or two, soon gets full; the process can be repeated time after time. [The tiny creatures are finally tied up in wild-ginger leaves ready for baking.] At Atherton, as well as on the Barron, Russell, and Mulgrave Rivers, special baskets are manufactured on lines similar to that already described by me (see Bulletin No. 1, Sect. 29). They measure up to between 3 and 4 feet in length, and up to 6 or 7 inches in diameter, and are made of mesh varying according to the size of fish, usually eel, it is desired to trap, Fig. 7. When in use, the cage is laid lengthwise, in a shallow portion of the creek, with its mouth up-stream, and fixed in position by means of rocks and stones placed at an angle across the water. What with the "beating" of the hunters further up the creek, the fish are driven down and caught in the basket which (in the cases I saw in the neighbourhood of Atherton) protruded just above the water-surface. The basket (MAL, kau) employed on the Tully River is rather more funnel or trumpet shaped than the Atherton, etc., specimens. These natives fix it longitudinally in the stream with plenty of fine water-grass or water-couche lined all around on its inner surface. Along both sides of an angle, diverging from the mouth of the cage, they then make a fence with sticks, etc., driven in vertically, and plenty of big blady-grass intertwined, so as to prevent the fish passing through anywhere, except into the trap. When hunting for eels this cage is put down in the daytime, left all night, and only taken up in the morning. The same blacks also use these baskets as an adjunct to other methods, actually driving the eels into them. Thus, if in daytime the natives come across a hollow log lying in the water, and suspect an eel in hiding, they will hold the cage at one extremity and drive a lawyer-cane (with frayed end) into the log from the other, and so hunt the animal out. Supposing the log to be closed at one end, the cane is put in, and its chewed, *i.e.* frayed, end carefully examined after being poked about there, so that, if slimy, etc., the presence of the fish is easily ascertainable: should the log, furthermore, prove rotten, the blacks will make another (fresh) aperture near the closed end, and so with the cane drive him out into the mouth

of the basket held there. Leichhardt, in his Journal, etc., speaks of "a long funnel-shaped fish-trap" and "a great number of long conical fish and crab traps," made of *Flagellaria*, on the Limmen Bight and East Alligator Rivers respectively; though both these are in the Northern Territory, they are the nearest places at which I know of anything approaching the Cairns and Cardwell district fish cages.

(i) **Fish-nets** are not employed at Cape Bedford, on the Bloomfield, or on the Endeavour River. This statement is confirmed for the last-mentioned by Lieutenant Cook, in that he says "as they have no nets, they catch fish only by striking." On the other hand, both the Cooktown and Cape Bedford blacks know what a net is, and, in their Koko-yimidir language, speak of it as magar—*i.e.*, a cobweb. The nearest places to them at which nets are actually used would be the Laura (60 miles inland), Princess Charlotte Bay (on the north), and Cape Grafton (on the south). I have not been able to obtain reliable particulars as to the construction, pattern, and mode of employment of the Cape Grafton net (KUG, paiparo, mokaro). Though larger nets are imported from the south, the true Boulia district fish-net (PPT., mali) is not less than 6 feet in length, is woven on the netting-stitch pattern (see Bulletin No. 1, Sect. 23) usually from *Psoralea patens* twine, and fixed on a **non-folding rectangular frame** composed of four withes bound at the corners. Several of these nets are used at a time. Two men start into the water from the river bank, with the net between them, followed successively by another and another pair, and perhaps a fourth, each couple coming up from behind, so as to overlap the one immediately preceding and together forming a gradually more and more enclosed space, into which the beaters in front are driving the fish. The Cloncurry net (MIT, mu-na), which is usually obtained in barter from the Upper Flinders, is on an average of about the same size as the Boulia one, and woven on similar lines, but the framework is more oval, all four sticks being much curved; indeed, on the two longer sides, the advantages of a "curve" may be artificially produced by bracing two withes together at a very open angle. Nets in the form of a **non-folding oval frame**, with attached net woven on the "hour-glass" variety of pattern (see Bull. No. 1, sect. 22), appear to be peculiar to the Peninsula, where I have seen them on the Morehead, Musgrave, Normanby, Laura, Palmer, Embley, Pennefather, and Batavia Rivers. In the hinterland of Princess Charlotte Bay, where these nets reach their maximum size, the frame is formed of one thickness of lawyer-cane, but made up of from two to three pieces, firmly lashed together; usually, its width is about 2½ feet and length 5 feet, but these limits are often exceeded, Fig. 8. The twine from which this net (KRA algomarda, KWA arwi-a) is woven is obtained either from the *Acacia latifolia* or *Livistona australis*. It is borne along in the water more or less vertically, and worked by two boys, their friends in front acting as "beaters." On the Palmer, this net is made of *Acacia leptocarpa* string: its frame is also comparatively large, and used similarly by two people. On the Batavia, Pennefather, and Embley, the frame is made of the *Flagellaria indica*. The Laura, etc., blacks—the Koko-yellanji—call this variety of net yikan-ikan: the Nggerikudi natives of the Pennefather River speak of it as ngo-ajana, and certainly among these latter aboriginals it is used and manufactured only by the women. **Folding oval frame nets, with mesh** woven on the European netting-stitch pattern, replace further south the non-folding frames with "hour-glass" pattern mesh, just mentioned; they are to be met with from the East Coast (Princess Charlotte Bay certainly to Hinchinbrooke Island) right across country to the Western Districts (Cloncurry, Normanton, Bentinck Island, Boulia). These folding-nets are put to use on similar lines as the preceding, save that, instead of being raised horizontally out of the water when a fish is caught, they are folded up like a purse, the two halves of the frame working on twine, etc., hinges; the smaller kinds are usually managed by one person, who will grope about the shallower water-holes, etc., with the article held either in front or at his side. On the (lower) Tully River, in narrow channels, the folding-net—instead of being held with the hands—may be fixed against two stakes, the current helping to keep it in open position; with other natives "beating," as soon as the one in charge of the net sees a fish driven near, he dives in and shuts it, but to do this successfully he must be in close proximity, either on the bank or an overhanging snag. This kind of net so fixed may be used here with "wings" in flood time, especially for "rock cod"; the "wings" are composed of short thin stakes intertwined with blady grass. Oval-frame folding-nets vary in size from 1 to 4½ or 5 feet in their longer diameter. The Maitakudi of Cloncurry call the smaller varieties billinya. With the larger sizes—*e.g.*, those met with among the Koko-lama-lama and true coastal blacks of Princess Charlotte Bay—the strain of folding under water is considerable, and each half of the frame is accordingly composed of two pieces of cane (*Calamus*) twisted one around the other; these particular nets (KLA, warte-a) are here woven from *Malaisia tortuosa* and *Sterculia caudata* fibre. On the Tully River the frame is usually made of *Flagellaria indica*, Linn. (MAL, painki): the net is called mokaro (MAL). The actual mesh-work of these folding-nets is constructed to the shape of a rectangular parallelogram: for transport, carrying them over the shoulders, the two sticks (*i.e.*, the two halves of the frame) are passed through the loops of the shorter ends, Fig. 9, and rolled up: when required for use, the free extremities of both sticks have only to be inserted through the meshes of the top and bottom rows, Fig. 10. **Non-folding triangular-frame** hand-nets were met with (1897) on the Keppel Islands and mainland coast-line extending from Port Curtis to Broadsound. The frame consists of two switches, usually of a species of *Acacia*, overlapped and bound together at their thinner extremities, and tied to the cross-junction of the two thicker ends which are left projecting, Figs. 11, 12. The mesh proper, woven like the ordinary

netting-stitch, is worked onto an initial row of slip-knots (Bulletin No. 1, sect. 26), and, fixed on a correspondingly small frame, is allowed to have considerable depth. Two of such nets, one in either hand (which holds the thicker free ends of the frame), are employed simultaneously. Fishermen will thus often hunt in company stationed in position of more or less of a semi-circle in the water, while others, perhaps without nets, will act as beaters. These nets are employed both in deep and in surface fishing, though more often the latter—especially in the case of mullet. From the fact of the hunter having to quickly bring into close apposition his two nets as soon as a fish comes within reach, it often happens that one or other wrist is injured by the projecting ends of the frames. Captain Flinders, in speaking of the Sandy Cape natives, close upon a century ago, says ("Terra Australis," p. 10): "I noticed in most of them a hard tumour on the outer knuckle of the wrist which, if we understood them aright, was caused by the stretcher of the scoop coming in contact with this part in the act of throwing the net." So again, when describing the Keppel Bay aboriginals (T.A., p. 30), he mentions "upon the outer bone of the wrist they had the same hard tumour as the people of Hervey's Bay, and . . . as cast nets were seen in the neighbourhood, there seems little doubt that the manner of throwing them produces the tumours."

(*j*) **Stone Dams, Weirs.**—Independently of nets, another contrivance for catching fish, and one greatly adopted after floods when the waters are going down, is the building of a dam right across the stretch of water. These dams, which may be used again and again, season after season, constructed of rocks and stones, have "breaks" in them, through which the water rushes on to platforms built immediately below. These platforms, also on a foundation of sand surrounded with stone, are covered with boughs and a top layer of grass, which in between its meshes catches the fish as they are carried over the breaks with the receding waters. Instead of, or sometimes in addition to, the platforms, a net may be fixed up with two sticks on the lower side of the breaks, and so catch them as in a large bag. Such stone dams are met with in the North-West Central Districts. On the East Coast—*e.g.*, Russell, Barron, Mulgrave, etc., Rivers—where the net and platform at the gap are replaced by a cage or basket, I do not know for certain whether the same dam is used again from year to year. On Sweers, Bentinck, Mornington, etc., Islands, stone dams are erected along the coast-line in the shape of more or less of a half-circle, the extreme of the convexity reaching sometimes to as much as 300 yards from the shore. The majority of these dams are contiguous, and built of pieces of stone (subsequently locked together by oyster-growths) to a height of from 18 inches to upwards of 3 feet, the general contour of the rocky beach being everywhere taken advantage of; they are covered at high water. The fish are thus blocked from going out to sea with each receding tide.

(*k*) **Bush Fences** are similarly employed only in flood time for catching the bigger fish as they are returning to the lower reaches, and are of pretty universal use. One of the biggest, Fig. 18, that I have seen was in 1898 on a dried-up stream, which was believed to be somewhere about the head of Birthday Creek (Pr. Charl. Bay). It was quite 100 feet in length, formed of a composite cross-piece, along which dozens upon dozens of thin switches from 8 to 10 feet high were resting. The five or six long logs constituting the cross-piece were supported (see diagram, Fig. 1*d*) by a corresponding number of upright forked timbers, and reached a horizontal level corresponding with the height of the flooded water-surface. The switches, which were firmly stuck at their bases into the mud, rested at a marked angle upon the up-stream side of the cross-piece, thus all the better resisting the force of the waters when coming down. Near the extreme edges of the fence, two spaces had been left, about a foot wide, over the down-stream side of which nets had been fixed for the purpose of catching the fish as they attempted to get through: as the waters still further receded, the remaining fish would be speared or otherwise captured along the bases of the switches in the central portion of the fence. The whole structure was named respectively areria, rerian, and aro-unba by the Koko-wara, Koko-yarmal, and Koko-lama-lama boys who accompanied me. Another curiosity in the way of bush-fences I saw in the neighbourhood of Mapoon in a tidal creek, the fish coming in with the water rising, and detained there when the water falls. The bushes constituting it must have been about 3 feet high, in the shape of a blind alley-way with a cross-partition, the latter being of a considerably lower level than the remainder: the trap of course ran along the length of the stream.

(*l*) **Artificial moveable fences,** formed of grass bushes, etc., are worked as follows:—In a pretty shallow waterhole, the whole diameter is blocked by all the women from the camp taking up their positions close together side by side, progressing forwards on their hands and knees, and pushing thick bundles of grass tussets and leafy boughs in front of them; a "grass" fence is thus formed, which shifting onwards and onwards drives the fish before it close on to the banks, where they are easily killed and caught. This method is practised throughout the North-West Central Districts, in the Peninsula, and on the East Coast certainly as low down as the Tully River.

(*m*) **Harpoons,** though mainly employed for capturing turtle (sect. 18) and dugong, are also used for catching the larger varieties of fish. With the implement as used at the Keppels and surrounding coastal district, the rope is firmly hitched onto the dart, wound twice or thrice round the length of the shaft, onto the extreme butt of which it is then tied, finally passing to the thrower's hand containing its remaining length looped up in a number of coils. When the animal is struck, the impact of the blow frees the dart from the shaft, both fish and shaft being hauled in by the rope, the extreme end of which has been firmly grasped by the hand. The coastal blacks at the mouth of the Tully River also use the harpoon for the larger species of fish, *e.g.*, shark, trevally, etc., both in

daylight and by moonlight. Under the latter circumstances they can tell by the ripple, etc., where such an animal is. The connecting rope is here much longer, running often to over 30 fathoms, and its main portion is carefully coiled in the dilly-bag hanging in front from around the hunter's neck. The hunter will, of course, hold a few loops of rope (sufficient to allow of the dart reaching the required target) in his throwing hand and thumb, but directly he has let fly he bends forward, so as to give scope for the line to get clear, and then after a time begins to haul in.

(*n*) **Spears.**—There are one or two peculiarities in the method of employment of these weapons for striking fish which ought to be noticed here. For instance, it is of common occurrence, especially in deep or muddy waterholes where the fish cannot actually be seen, for the blacks to strike here and there promiscuously on the off chance, and every now and again they may prove successful. So, again, when after eels, on the (lower) Tully River, in any streams after the floods have gone down, or in any eddy where dead leaves, water-grass, etc., have collected, some fifteen to twenty men will wade in, up to the waist if necessary, and job the points of their spears vertically down (single-pointed spears are used for this: the three or four-pronged ones would get clogged and caught in the tussocks). The twisting and twirling of the spear will be the immediate indication that an eel has been "pinked." The next process, in the old days—*i.e.*, before the introduction of wire—was for the native to bend down and capture the fish with his hand before it could slip or wriggle off, a practice which often entailed his being severely bitten. Now, however, that the black is provided with a wire spear, he can push it still further down, then pass his hand down right underneath the animal, and bend the wire upwards. Thus impaled, the eel cannot get away. In the case of big fish *e.g.*, barramundi, black bream, etc., lying in and among the snags on this same river—the Tully—the blacks will creep very stealthily, or even dive, into the water, and, with a spear, strike the creature from the sides or from underneath.

16. Snakes are often hunted for in iguana burrows. On the lower Tully River the large carpet-snake (*Morelia variegata*) is commonly discovered by its messmate, "Broadbent's black butcher-bird (*Cracticus Quoyi*) these two being nearly always found together here. The bird flies over the snake with a "clucky" chirp, and whenever the natives hear it in the dense scrubs they sneak in to discover the reptile, which is caught by being grabbed at the back of the head.

17. Frogs.—In the North-West Central Districts frogs are usually dug up from their burrows, the surface indications of which are recognisable. The digging is effected with the hands in sandy soil, with the digging-stick in hard ground. On the lower Tully River, during times of flood, and in very low-lying country, there is a certain kind of green frog met with in great numbers. The natives, both male and female, armed with a stick in the left hand, and provided with a large dilly-bag slung over their shoulders, wade into the water. As each frog is caught with the right hand its head is struck sharply against the stick held in the left, and then slung over the shoulder into the basket. Dozens and dozens of these creatures are caught in this way.

18. Turtles and Tortoises.—Turtles are in the main hunted with the harpoon. This weapon consists of a shaft and dart, connected by a rope, the dart being jambed into a socket at the distal extremity of the shaft. As Lieutenant Cook puts it very tersely, when speaking of the Endeavour River natives: "To strike the turtle, the peg [dart] is fixed into the socket, and, when it has entered his [the turtle's] body and is retained there by the barb, the staff [shaft] flies off, and serves for a float to trace their victim in the water; it assists also to tire him till they can overtake him with their canoes and haul him ashore." This description still holds good for the Keppel Islands and corresponding coast-line, extending up to Broadsound, where the darts are still barbed. Further north—certainly at the Endeavour River—the dart, now generally replaced by iron, is not barbed, and consequently no direct attempt is made to haul onto the rope; for, were too sudden a jerk to be exerted on it, the dart would very probably slip out and allow the turtle to escape. In these cases, the aim of the hunter is to dive into the water after the creature immediately upon striking: he is guided as to what direction to take by the connecting rope attached to the shaft bobbing up here and there on the water. His next move is either to put the rope in the form of a slip-knot round one of the flappers, and so get the animal dragged up into the canoe, or else to turn the creature bodily on its back, and thus bring it himself up to the surface. The advantage of the iron dart is that it will penetrate the scutum: the wooden one, for which far greater skill is required, has to be thrown into the unprotected portions of the animal—*i.e.*, the neck or posterior. At Cape Grafton, I have known of blacks going out in a canoe, from which one will dive into the water and so drive the animal up to the surface, where it will be harpooned by the others. On the Keppel Islands, the natives will dive and catch turtle under water with their hands, rendering the creature helpless by turning it on its back. Hunting turtle with the assistance of the sucker-fish (Remora) has already been drawn attention to [Sect. 15 (*o*)].

Tortoises are caught in the hands or with small nets. On the Palmer River, the Koko-minni blacks kill the tortoise by pulling its head well forwards and then breaking its neck upwards and backwards.

19. Crocodiles are usually speared, a favourite spot appearing to be just behind the arm. As a rule the larger-sized ones can only be caught when stranded in the smaller water-holes after flood by letting fly dozens of spears into them. On the Upper Leichhardt and on the lower Palmer River two or three cases came to my notice where the animal (*Philas Johnstonii*) had been caught by hand in the water, the aboriginal hunter getting onto its back, holding its jaws together, fixing its tail by putting his leg round it, and so dragging the creature onto the river bank where it is easily rendered comparatively helpless. At Cape Bedford are to be found one or two old men who are not afraid to dive into a water-hole and tackle the true crocodile (*Crocodilus porosus*). So also on the lower Tully River, where the same animal is captured by means of a slip-noose or a screen, according as the water is a tidal or a non-tidal stream. The **slip-noose** is employed only in shallow water unless there is some overhanging snag from which the natives can conveniently operate. The blacks rather try to drive the reptile into some deep pool, when one of them will dive down onto it and slip over its head a lawyer-cane slip-noose, which it is the business of his assistants to tighten and haul in [E. R. Brooke]. When

driven like this, the crocodile will crouch up against the side of the bank, when the hunter will jump in and dive into such position as will enable him to put the noose over the creature's head from its free quarter. As soon as it is once over, he signals to his mates, who are holding on to the other end of the lawyer, by a quick vibration on it; they, some nine or ten of them, then hang on, pull steady, haul the brute onto the bank, and despatch it by knocking it on the head with heavy sticks. The reptile may make a snap or two at the cane, but apparently does not damage it. The mechanism of the noose is represented in Fig. 15; its knot is previously hammered and battered so as to prevent its coming untied at the critical moment: the first 10 or 12 feet of the noosed end are also previously twisted round and round in a spiral, so as to give springiness and prevent kinking when put into use. Sometimes, with a view to increasing the purchase, two lawyer-canes are tied together, making up a total length of well over 50 feet. The whole implement is known locally as the kambai. It is noteworthy that, in the early days of white settlement here, the natives used to suspend similar nooses from overhanging boughs along the scrub tracks, hunt the cattle along, and so capture them. To catch crocodiles in tidal waters, a **screen** is used in connection with a fence thrown across the stream. This fence is made of some fair-sized stakes, 10 to 12 feet long, driven down into the mud on their pointed ends, about a foot apart, but leaving open a space some 6 feet wide in the centre of the creek. The tops of the stakes, flush with the high-water level, are held in position with small lawyer-canes. Such a fence may lie idle for some time, but as soon as the natives find that a crocodile has gone up stream through the vacant space, they close it by means of the screen—the niakai. This screen is formed of split pieces of cane placed horizontally, and all woven together with a very close mesh. It can be rolled up, for purposes of transport, just like a Chinese blind. It is tied up to the top of the upright stake on either side of the hitherto open space: it is fixed below by a forked stick driven into the mud. When once the progress of the animal is thus checked, the fall of the tide is waited for, when spears and sticks finally help to put an end to the reptile's existence.

20. "Iguanas" (*Varanus Gouldii*, etc.) are speared out in the open, or else hunted for in hollow logs, or in their burrows. At Princess Charlotte Bay the natives are well conversant with the habits of this creature, and can always tell by the tracks whether it is in its ground-burrow or not. It would appear (from the statements of these blacks) that the iguana goes into one of its burrow-holes at sundown, and closes it up after it. It emerges during the morning by another opening, into which it returns the same evening, closes it up again, and escapes by yet another aperture on the following morning—in fact, every morning it emerges from another of the many openings leading to the burrow. Only during the very hottest part of the day will an iguana perhaps find its way back into the burrow, but only to emerge again when the atmosphere is cooler. If a log, etc., is suspected of containing an animal, the natives will insert a lawyer-cane "prodder," not only to prove their surmises, but also to measure the length of the hollow, so as to indicate where it can be suitably cut into from the outside.

21. Emus (*Dromœus Novæ Hollandæ*)—

(*a*) The following method of hunting emus, by driving them into **nets**, is practised throughout North-West Central Queensland:—Emus generally make for the water-hole, day by day, along the same track, coming either at early morn or midday. The hunters, having noted this track, will wait in ambush and allow the bird to pass down on its way to water, but, while drinking there, will sneak round, and silently as well as expeditiously rig up the emu-net some 30 or 40 yards behind the creature and right across its path. Since the emu usually spends some time at the water-hole, the fixing up of the net is not necessarily quite so hurried a performance as might have been expected, though it can be placed in position within a very few minutes. All being ready, the hunters will suddenly emerge from their hiding-places when the bird returns, and as it rushes headlong (any diversion from the path being prevented by the men stationed in suitable positions) will drive it into the net, where it becomes entangled, and with boomerangs and nulla-nullas soon despatched. The general appearance of two of these nets, as made in the Boulia district, is shown in the diagram, Fig. 16. The names given to the constituent parts are those applied by the Pitta-Pitta natives. These two nets were fixed up in position for my special inspection, close to the Boulia camp, in well under five minutes. A B C D are the strong terminal supports, markáry, between 4½ and 5 feet long, fixed firmly into the ground. E E E are the slender intermediate supports, tinja, about 8 or 9 feet long, forked at their upper extremities, which support the top string of the net on the stretch, and are lightly planted into the ground at an angle. X X X is the net itself, the yelpi, made of flax rope, about ¼ inch in diameter, and with meshes about 12 inches by 9 inches, the top row hanging like curtain-rings from a top-string F, the yawanna, attached to the terminal posts. Each knot is called a **mati**. By means of the intermediate supports on the top-string, the net in the lowest places touches the ground from a height of quite 7 feet. The distance between A and D, the space enclosed by these two nets, was over 120 feet.

(*b*) Sometimes a long **alley-way** (PPT. yel-ka yel-ka), much wider at one extremity than at the other, is built up in a convenient situation with bushes, boughs, and saplings intertwined: the narrower end is blocked with an emu-net, while the other is left open. Close to the opening, and about midway between the two sides, are the hunters, who, concealed under cover of some bushes, etc., start imitating the emu's "call." The bird, coming up in answer to the sound, struts along either side of where the men are in ambush; the latter, on rushing out, making a sort of wheeling movement, and, once getting behind the creature, have no difficulty in driving it before them along the alley into the net where it becomes entrapped. The "call," a sort of "drumming" sound, is imitated by blowing into a hollow log some 2½ feet to 3 feet long, from which the inside core has been burnt so as to form an aperture about 3 inches in diameter; when in use, the tube is held close to the ground in which a slight excavation has been made. These "call-tubes" are met with throughout North-West-Central Queensland; the alley-ways I only know of being employed in the Boulia District.

(*c*) **Pits.**—On the sandhills round above the Hamilton River, in the Boulia District, a deep pit is dug in the middle of the day in close proximity to some wild-vine bush, emu-apple tree, etc., and, to avert suspicion, the excavated sand removed to a considerable distance. The mouth of the pit is carefully covered in with light boughs and saplings, hidden up with sand, and not visited again until the following morning, by which time a bird, coming after the fruit, will probably have fallen in. The same method of single pits is employed by the Kalkadun natives of the upper Leichhardt River and Selwyn Ranges. On the upper Georgina River, pits were used in the "old" days, but the practice is now fast dying out. At Glenormiston, on the lower Georgina, a system of multiple pits is put into practice. Arrived at the hunting-ground frequented by the emus, and during their pairing season, the men make a more or less circular fence or enclosure with trees, bushes, and saplings, about 60 feet in diameter. Along this fence some half-dozen gaps are left, and at each of them a pit is sunk, about 2 or 3 feet wide and 4 feet deep, the mouth being cunningly concealed with boughs and grass. In the centre of the circle a bigger hole is dug, similarly masked by bushes, into which three or four men can crouch. With the "call-tubes" these men imitate the emu's note, and the birds, making for the direction in which they hear the sound, come up to the fence and run along it to the next gap, where they fall unsuspectingly into the pit. Sometimes there are external wings, also with gaps, etc., stretching from the circular fence. The same enclosure may be used for three or four years in succession (J. Coghlan).

(*d*) In the Boulia District, on occasion, when a mob of emus happens to come within the neighbourhood of a camp, all the men and women may assist in surrounding and **mustering** them like cattle, subsequently driving them down to the nearest water-hole, where they are killed with nulla, boomerang, or spear.

(*e*) All over North Queensland emus may be **speared**, only the method of stalking varying. Thus in the Cloncurry district, to prevent the bird seeing him, the hunter covers himself with bushes, and holds others in front of him: to prevent the bird "smelling" him, he gets rid of the perspiration from under the armpits and from between the thighs by rubbing these parts with earth. So again, in the hinterland of Princess Charlotte Bay, the hunter wears a collar-like head-dress—made of a thick sheaf of long grass doubled and tied behind—and holds some bushes in front of him. On the Pennefather, the natives similarly screen themselves with some bushes afront, but I do not know of any special head-gear being worn. The Palmer River blacks either hide in amongst the Owenia trees, or conceal themselves in pits dug in their close proximity, and spear the bird either as it comes to feed on its favourite fruit or passes by. Leichhardt, in his Journal, etc., p. 364, when on the Albert River, says: "The natives had surrounded the water-hole on which we encamped with a barricade or hedge of dry sticks, leaving only one opening to allow the emus to approach the water. Near this the natives probably kept themselves concealed and waited for the emus." The same observer, when referring to a water-hole in the neighbourhood of the Nicholson River (p. 376 *op. cit.*), again expresses himself: "The natives had surrounded it with dry sticks, leaving an opening on one side for the purpose of taking emus, as before described."

(*f*) Emus may also be hunted with **dogs**, the latter always making for the bird's neck.

22. Cassowaries (*Casuarinus australis*).—On the lower Tully this is the only bird which is speared, the natives imitating its "call," and hiding behind a tree, etc., as it passes along to water. Sometimes it is hunted with dogs. Its young are generally run down.

23. Pelicans (*Pelecanus conspicillatus*) —At that portion of a creek or water-hole (in the Boulia District) which the pelican is known to frequent, the hunter will sit in the water, in ambush, under cover of the bushes or suitable overhanging tree, etc., and throw empty mussel (*Unio*) shells one after another to some considerable distance in the water. The bird, thinking that these are fish "jumping" on the surface, comes closer to inspect: at the same time the concealed and otherwise immoveable individual taps the water with his fingers to mimic fish splashing. The pelican, more and more convinced of the plenteous supply of fish in and around these very same bushes, etc., swims more and more into danger, and, when arrived close enough, is either hit with a boomerang or sometimes even caught with the hands. On the upper Georgina River, pelicans are caught at night when asleep on the banks; the hunters—their bodies greased with ashes, and heads covered with bushes, the better to conceal themselves in the darkness—will noiselessly swim up to the unsuspecting birds and easily despatch them. The East Coast natives may similarly creep onto pelicans at night and spear them.

24. Turkey-Bustards (*Eupodotis australis*).—This so-called turkey may be speared—the commonest method, as a general rule, everywhere. In the Boulia District it is either caught with a grasshopper and noose fixed to the extremity of a long thin switch held by the hunter, who gradually creeps forward unobserved, enveloped in boughs and bushes, or else quietly surrounded in the open. In the latter case numerous fires are simultaneously raised in more or less of the line of a circle right round the group of unsuspecting birds which, dazed with the smoke and din now suddenly evoked, are rushed upon and easily knocked over with boomerangs and nullas.

25. Scrub-Turkeys (*Telegalla Lathami*); **Scrub-Hens** (*Megapodius tumulus*), etc.—The Telegalla's tracks, either to or from water, usually pass along the same path daily, and consequently but little difficulty is experienced in determining the exact spot where to erect one of the lawyer-cane traps into which this bird is decoyed and captured. The particular trap used on the Russell River consists of a series of lawyer-cane hoops stuck into the ground, and fixed in continuity by means of strips of similar material fixed along the top and sides respectively. According to H. Saltmarsh, who kindly supplied the photo. from which Fig. 17 is taken, the trap is about 4 feet long, and 1½ feet high in its highest part—*i.e.*, about 9 inches from the entrance—and the mouth is about 15 inches wide. Though the natives make them of different sizes, the above is an average one; the local name is "gimmon." After erecting such a structure, the hunter will bait it well with nuts, fruits, etc., in the morning, and then about sundown

take up his position in a specially constructed hiding-place—made of leafy branches, etc.—about 12 feet away, but right in front of the opening. Hence he rushes out, immediately the turkey strolls into the trap. A native will generally build two traps in close proximity, so as to work both from the one hiding-place. In the Tully River district, the traps—which are employed here for both Telegalla and Megapodius—are furnished with "wings." These latter consist either of sticks and brushes, closely intertwined, or else of half-hoops of lawyer-cane, placed as in Fig. 18, in the form of a close network. The whole trap complete takes about half-a-day to fix in place. The hunter occupies a position behind the wings, in close proximity to the trap, and, crouching down, covers himself with leaves and bushes: the Tully native "calls" for the Telegalla, but not for the Megapodius.

In the case of the **Swamp-Pheasant** (*Centropus phasianus*), on the lower Tully, the nest is discovered and located in the day time; at night, a folding-purse net is closed over the whole clump of grass containing it and the bird.

26. **Ducks, Cranes, Diver-birds,** and others may be caught with sticks, etc., in the nesting season, by sneaking upon them unawares. The natives of the upper Georgina and in the Boulia District noose ducks with a long slender stick, to the extremity of which a feather-quill with slip-noose (PPT, nanteri) is attached. The hunter, well concealed with bushes tied round his head and face, waits patiently in the water for his prey, which, paddling along the water, soon comes into suitable position for the loop to be slipped over its neck. When speaking of the blacks in the neighbourhood of Bowen, Murrell says (Narrative, etc., 2nd. Ed. p. 44): "They also catch many birds [not specified] with snares—merely loose knots—which are placed in the thick grass and reeds in the swamps, and as the birds pass through in quest of food, especially at night time, the prey is caught." In the hinterland of Princess Charlotte Bay, on the Palmer River, etc., ducks, geese, and similar game are all stalked and speared—usually with the ordinary simple-point spear if on land, but commonly with a pronged one if on water. In either case, the aboriginal covers his head with a bundle of long grass, tied about near to its extremities into something like a horse-collar, the ends falling over onto the back of the wearer's shoulders. Fig. 19 shows the hunter thus arrayed in his head-gear, holding with one hand a bunch of leafy switches in front, and with the other his womnera spear, as he glides forward in the water after the unsuspecting birds. Viewed from the front, the individual so concealed looks for all the world like a tussock of grass floating down the stream, so slow and silent are all his movements. If duck are being hunted out on the plains, the black does not trouble about holding the leafy screen in front of him, but stalks his prey more or less on all fours, under cover of any intervening bushes. On the Pennefather, Embley, Tully, etc., Rivers, ducks and geese may be knocked over with long thin switches (*Pluggea*, etc.) both by day and by moonlight. The Pennefather natives, in addition, will build special bush-shelters in the lagoons, and hiding under cover will wait there for hours for a favourable strike with their spears. In the neighbourhood of the Laura, also at Cape Bedford and elsewhere, ducks can be caught by silently diving under them in the water and pulling them down.

27. **"Flock"-Pigeons** (*Histriophaps histrionica*) along the Burke, Georgina, and other Western rivers, where they can be met with in thousands, are caught in small-mesh nets (PPT, mokwari) of a particular shape. The upper edge of this net is attached along its whole length to a long thin curved stick, the handle of which is free, and held by the hunter when all is in readiness; its lower edge, about 10 feet or 12 feet in length, is about 3 feet longer than the upper, and, when in use, fixed along its entire extent into the ground by means of little forked twigs. A small artificial water-hole, about 6 feet long and 2 feet or 3 feet wide, is made parallel with, and at a little distance from, the main channel where the birds have been noticed to usually alight; this miniature lake is effected by a scooping up with the hands, and, what with the sandy formation of the soil, it quickly fills with beautiful clear water. When in the late afternoon the birds come down to drink, they will in all probability make for it, thinking it to be a new hole and its water fresher. The hunter knows this, and lays his net quite flat upon the ground, with the lower edge fixed close to that side of the artificial water-hole further removed from the creek; he hides himself in a crouching position under some bushes and sand close enough to have full control of the long handle. The pigeons settle down in time, walk on and over the net, and collect on the miniature lake, where they "sit" the water like ducks. As soon as the individual in ambush thinks the opportunity suitable, he revolves the net around its fixed axis by a very swift movement of the arm and wrist, thus enclosing the unsuspecting birds beneath. A similar but smaller mokwari net is used by the Maiwkundi in the Cloncurry District, not only for flock pigeons, but also for galah parrots and other birds; the handle, however is more curved, and the lower edge of the net itself only just a little longer than the upper. The artificial water-hole is not necessarily made near a river, but usually anywhere in the open. A small excavation is made, 18 inches to 2 feet in diameter, which the woman comes forward and fills. As she retires, the birds apparently think the coast is clear and come down to drink, when they are easily caught by the hunter, who is lying concealed all the time half hidden underground and covered with bushes. This method is adopted especially in the summer months when all the natural water-channels have dried up. On the head-quarters of the Georgina, the Workai and Yaroinga tribes bring down flock-pigeons by throwing a hook-boomerang into the middle of a mob of them.

28. **Torres Strait Pigeons** (*Myristicivora spilorrhoa*).—These birds are caught on the lower Tully by two different yet effective means, according as they are hunted for on the coast-line or on the mainland. As the pigeons fly homewards of an evening to the islands, they usually follow the same course of flight, night after night; and when leaving the thick belt of timber fringing the shore, they swoop down to the fore-shore, and fly low on the water. These facts are well known to the natives. Accordingly, as the flock of birds commences to swoop, the blacks (concealed beneath and on the shore-side of the timbered belt) let fly any ordinary stick into its midst, bringing down as many as four birds on occasion with the one throw. There is often a signaller picketed some distance behind to give warning of the birds' approach to the individuals concealed in front. On the mainland these Torres Strait pigeons similarly keep to the one track. To capture them now, any high bushy tree is chosen along this

same track anywhere convenient, and the native climbs up it as high as he can get. In his hands he holds a long thin switch, to which a special name is applied, quite 15 feet long; to prevent this accidentally dropping, it is attached to the wrist by lawyer-cane fixed to the butt-end. Should the tree be bare, comparatively speaking, of foliage, he will build a sort of bush-shelter to hide in, and, to prevent accidents in the way of slipping off or falling down, will often tie himself to the tree by a cane passed round his waist. He goes up the tree in the afternoon, about a couple of hours before sundown, and, so prepared, awaits the evening flight, when, holding the stick with both hands, he strikes at the passing birds, and is generally very successful in knocking some down. Torres Strait pigeons also have another peculiarity in that they always roost on low branches—the knowledge of which was utilised in the old days on Hinchinbrooke Island Here the islanders would during the daytime—*i.e.*, during the birds' absence on the mainland—prepare numerous fires directly under those particular trees where they knew these pigeons to roost, and at night-time, after their return, set fire to them, the birds soon being killed and suffocated in the smoke.

29. Corellas (*Licmetis nasica*), Galahs (*Cacatua roseicassila*), and White Cockatoos (*Cacatua galerita*) are entrapped on the water in the late afternoon in the upper Georgina River District. The hunter, after tying numerous grass twigs and leafy boughs round his head, neck, and face, which are thus completely concealed, will swim out to some log or snag projecting just out of the water, on which he has learnt, from previous observation, these birds have been accustomed to alight: here he supports himself, with only his head above the surface. As the birds come down to drink, they fly around the bushes, and resting on the log, etc, are easily caught by the legs, pulled under the water, their necks wrung, and stuck one after another in the hunter's waist-belt. Another and very common method throughout the North-West Central Districts of catching these and other birds which fly in mobs is to throw a light boomerang into their very midst when on the wing. On the lower Tully River the capture of the white cockatoo is somewhat of a difficult undertaking, but is mastered as follows:—Having noticed the particular branch and tree on which these birds are wont to camp, the native will, during the daytime, climb the tree and fix a lawyer-cane to the branch in question: the cane is of such length that it reaches to the ground. At night-time he will climb it hand-over-hand fashion, fixing his feet as he progresses by grasping with the big and second toes; at the same time he carries with him a long, thin stick hanging down behind and attached to a ring of lawyer-cane round his forehead or neck. Having reached the branch singled out, he very stealthily crawls along it, and, sneaking up very carefully, knocks the birds over with the stick. This method of capture is somewhat of a hazardous one for the hunter, but is commonly and successfully employed. As will be seen in the next section, parrots and cockatoos can also be caught with "bird-lime."

30. Other small birds.—The green "shell-back," "love-bird" or "budgeregar" (*Psittacus*, sp.), and other similarly small birds are caught with net and alley-way on the upper Georgina River, and in the Boulia District. Stretching from some water-hole, in the neighbouring trees of which these birds have been observed to roost, two long divergent fences are built: these are made with thick bushes, saplings, etc., to a height of some 8 to 10 feet, and 40 or 50 yards long. The space within the narrower portion of the alley is cleared of trees, etc., that in the wider portion being left untouched. In the very early morning a number of men sneak up towards the trees, bushes, etc., therein remaining, and with many a shout and every kind of noise will suddenly commence throwing sticks and boomerangs into them. The birds being thus driven from their roosts by what they believe to be hawks, fly low and in a direction opposite to whence the noise proceeds, but, not being able to penetrate the bushes forming the fence, make straight for the water-hole, where they are intercepted in scores by a fine meshed net held up by two men standing just in front of the opening. On the Eastern Coast, as a general rule, with the smaller birds, it is the eggs and fledgelings which are rather sought for. On the Tully River, when after "Broadbent's metallic starling" or "weaver-bird" (*Calornis metallica*), as it is known to the local settlers, the natives climb the trees where the nests are, and carry up a hooked stick hanging from over the forehead down the back. When they reach a sufficient height they free one hand, take the stick in it, and by its means pull the nests and fledgelings down. The lower Tully natives use a substance akin to "bird-lime"—chimbun—for catching smaller birds, peewits, small parrots, and even young cockatoos. In the case of the two last-mentioned this chimbun is spread not only along the branches where they roost, but also in and among the young blossoms. The tree, a fig, from the sap of which this bird-lime is obtained, I have not yet been able to get identified.

31. Kangaroos (*Macropus*, etc.), in the North-West Central Districts, are hunted in various ways. They may be tracked and sneaked upon during the extreme midday heat, and caught while resting in the shade by means of spear or boomerang. In rainy weather, and over boggy soil, they are run down with dogs. In other cases they may be caught in nets which are quickly rigged up along their beaten tracks to water with exactly the same contrivance and method as that employed in catching emus. Occasionally they may be driven into an enclosure formed of three nets fixed in the position somewhat of the three sides of a square: the hunters, having previously determined upon the locality where the kangaroos are encamped, will drive them into this enclosure with the assistance of numerous "beaters" stationed in such manner as to compel the animals to run in the direction required. It should be noted that kangaroo-nets have been used by the Central and East Coast blacks: Leichhardt, for instance, speaks of them on the Dawson (where they were made of *Sterculia* fibre) and on the Suttor: Murrell, in his Narrative, mentions them in the Bowen District: while I myself found them in use two years ago at Atherton. This Atherton net, Fig. 20, is manufactured from what the Ngatchan blacks call the kewan, *Sterculia quadrifida*: the tree is known to the Ngaikungo-i and Chirpalji as the pukuro, and it is this latter term which all three tribes employ in expressing the net as a whole. The net is woven on a mesh similar to that of a fishing-net (though its actual progress of manufacture I had no opportunity of witnessing), the particular specimen in my possession having occupied the whole local camp some three weeks in completing. The fibre-twine employed is well over ¼-inch in diameter, and of the ordinary double-ply: each mesh can be stretched to over a foot in length. The body of the net runs on a top- and bottom- string, spoken of as the tcharli (B), attached by slip-knots to two strong side-supports (A) between 3½ feet and 4 feet long, firmly implanted in the ground at a distance

of some 16 feet or 18 feet apart. These side-pieces are called kartchin by the Ngaikungo, kanda by the Chirpal- and Ngatchan- speaking blacks. Three or four intermediate supports, pilchura (C), on front and back, keep the net itself upright; they are made of comparatively light switches, and vary in length so as to stretch the net to a greater extent at the centre than at the sides. The top-string rests on the fork of the most central of these supports, it being but looped round the free extremities of the others, which are not forked. None of these intermediate supports are fixed into the ground, the weight of the net being sufficient to keep them in position. Nets such as these are fixed across the tracks leading from the mountains, etc., to the water-holes; the kangaroo, driven headlong by the shouts of the hunters, lying more or less in ambush, finds itself suddenly entangled in the meshes, tumbles over in its attempts at extrication, and is soon despatched with spears and sticks. When not in use, the net is rolled round the two side-supports and carried by a stout cord, looped at either extremity (Fig. 21); this cord is held either in the hand or, far more commonly, slung over the shoulder. On the Palmer, Musgrave, and back of Princess Charlotte Bay generally, in addition to occasionally hunting them with dogs, kangaroos are speared, being tracked from the windward, these animals having a very sensitive appreciation of the aboriginal's scent. Sometimes, in order to make the marsupial approach into closer quarters, or else to get it out of some brush-wood, etc., so as to make surer of his aim and yet not to run the risk of exposing his presence, the hunter will throw a spare spear well over its head into the ground beyond. This spear, having been well smeared with the perspiration from under the arm-pits or crutch, is thus fully charged with the concentrated essence of humanity: the wind carries the scent and drives the kangaroo from apparent into real danger. (Wallabies are similarly hunted in these same districts.) Along the Pennefather River country, kangaroos are killed by spear, though the methods of getting within striking range vary. If by himself the hunter will paint himself completely over with yellow ochre (with this pigment or earth rubbed well into his arm-pits, etc., so as to kill the smell of his perspiration), and make himself resemble an ant-bed under the guise of which he can gradually approach to within a very short distance. If a hunting-party can be formed, the individuals composing it will spread out and gradually circle round the locality in which the kangaroos have been observed to be sheltering, and so gradually diminish the contained area; at another time a general drive may be organized, the younger men hunting the animals into the direction of the older ones who are in waiting with their spears. So again, in the circling method just mentioned, instead of closing in on the marsupials in the centre, a three-quarter circle of fires may be lighted, the best spear-throwers watching for the animals to emerge from between its two extremities. This method of firing the grass but not necessarily here in a circle, is also practised at Cape Bedford, where the whole camp will go and start a long line of bush-fires—up to a mile long—extending to the summit of some hill if possible: the men will then form in line at intervals, and so circle round, spearing the kangaroos in between them and the row of fires. The dread of fire experienced by these animals was noted by Lieutenant Cook when he expressed himself as follows:—"I have observed that when they [the natives] went from our tents upon the banks of the Endeavour River, we could trace them by the fires which they kindled in their way; and we imagined that these fires were intended in some way for the taking of the kangaroo which we observed to be so much afraid of fire that our dogs could scarcely force it over places which had been newly burnt, though the fire was extinguished." The systematic burnings of the grass mentioned by Leichhardt (Journal, etc., p. 354) as met with in the Burdekin and the Gulf country may reasonably be supposed to have been connected with this method of driving kangaroo by means of fires.

32. **Wallabies** (*Halmaturus*, etc.) used to be caught with nets on the Herbert River (according to Lumholtz, the nets were from 15 to 20 feet long, with large mesh), on the lower Tully River, etc. At Atherton, the wallaby trap or cage (Bulletin No. 1, sect. 20)—the *yingkar* of the three tribes occupying this district—is a cylindrical basket from 4 to 4½ feet long, and up to about 1 foot in diameter, with a pointed extremity and enlarged half-funnel shaped mouth (Figs. 22, 23). Several such traps, from ten to twelve of them, are put into use on the one expedition by laying them lengthways along the wallaby tracks which have been previously and carefully noted. Each is so placed as to have its funnel or hood up, the open extremity being surrounded with bushes and pieces of bark. The trap proves itself efficacious, owing to the circumstance, pointed out to me by the natives, that when a wallaby is hard pressed and makes for shelter it runs with the head down; instead of attempting to jump over, and its attempts are frustrated by the artificial bush work, the animal accordingly forces itself into the trap, the slope of the hood still further guiding its direction, where, tightly jambed, it is soon despatched by a hunter watching in close proximity. All the women and children will "beat" a considerable area of scrub country, and, what with shouting and hooting, easily drive the wallabies into and along their accustomed tracks, and so into the cages which are there fixed in position. Pits are employed for catching wallabies in the Cape Grafton, Cairns, and Atherton Districts, but not too commonly now in the latter. These pits, intended primarily for breaking the animal's leg, are covered with cross-sticks, upon which sheaves of grass, soil, etc., are laid so as to make the supposititous level appear flush with and of the same nature as the surrounding surface. The cross-sticks may be tied and fixed in position with twine, as well as supported by uprights from below; the pits I have observed from 6 to 8 feet wide, but not more than 2½ feet deep. They are named bangga by the Kungganji blacks of Cape Grafton. On the lower Tully netting cages, pits, nor nets are at present employed, though the last-mentioned were brought into requisition here within very recent times. In flood-time, however, the natives drive the wallabies from off the higher levels into the water, and there soon dispose of them with sticks and spears. They also hunt them occasionally with dogs.

33. **Bandicoots** (*Bettongia*) may be sought for and dug out of their burrows and from dead logs. In the Princess Charlotte Bay District the lawyer-cane prodder is often found useful in determining the actual presence of the animal, and so save fruitless digging away of earth or cutting away of timber. "Bilbis" (*Peragale lagotis*, Reid), in the Georgina District, are similarly dug out of their holes in the ground.

34. **Flying Foxes** (*Pteropus funereus*), on the lower Tully River, are knocked over when on the wing, with a long stick held by the hunter hidden up in a tree on the same lines adopted in the case of the Torres Strait pigeon.

35. Opossums (*Trichoglossus vulpecula*, etc.) can be hunted at night by night, provided of course the moon is up, or by dogs: during the day-time, the freshly-made claw-marks are looked for on the tree-butts in the hollow trunk or branch of which the animal is camping. In the Rockhampton district it would appear that in the absence of claw-marks, the presence of mosquitoes flying in and out of a hole is a very likely indication of an opossum or native bear in an otherwise unsuspected tree. The ring-tailed spotted opossum—black with white spots—is tracked not only by its claw-marks, but also by its scent, which is as strong-smelling as a pole-cat's.

36. Dingoes (*Canis dingo*) are, on the whole, hunted rather for the sake of obtaining the pups than for the sake of food—unless the natives are very hard pressed; the tracks of the pups are followed, and when run down are taken alive, to be subsequently tamed.

37. Dugong (*Halicore dugong*) are either harpooned or speared, more generally the former. As pointed out to me by the natives on the Cardwell coast-line, very good indications of their presence in the neighbourhood are the short lengths of grass, which have been bitten off by the dugong grazing below, floating on the water-surface. I am informed that on the south-west portion of Bentinck Island are to be found alley-ways in the form of bush fences, built in the shallow water, into which these animals are driven.

38. Human Flesh. Cannibalism.—Throughout North-West Central Queensland (as I wrote in 1896), though evidence of the practice is very meagre, and any information concerning particulars is but charily given by the aboriginals, there is no doubt that the custom, gradually becoming more and more obsolete, takes place. Thus in the Boulia District, especially with children who die suddenly without any lingering illness, portions of the corpse may be eaten by the parents and by their blood brothers and sisters only: the reason assigned is that putting them "along hole" would make them think too much about their beloved little ones, though this is apparently contradicted by the fact that if the child has been ailing a long time previously, and becomes emaciated, etc., it will be buried. Proofs also are to hand that, within the decade ending 1895, true-blooded aboriginal children have been purposely killed and eaten at Normanide, Roxburgh, and Carandotta. In the more northern areas half-caste infants are not uncommonly murdered, either at the instigation of their white fathers or their assumed aboriginal ones; but to what extent, in the latter case, for the main purpose of providing food, it is impossible to speak with certainty. With regard to people of mature years, those who have died suddenly and are in "good" condition at the time of death—not the old or the emaciated—may similarly be eaten: this rarely takes place in the Boulia or Cloncurry Districts nowadays, though many of the older men in these parts will relate numerous instances of its occurrence in the "early" times. The Kalkadun blacks of the ranges at the head-waters of the Leichhardt, etc., certainly up to the time I was making some investigations among them (in 1896), would eat any corpse, friend or foe, old or young, even in cases where the flesh was visibly rotten with venereal. Elsewhere, individuals who have been killed in inter-tribal warfare are left exposed where they fall. At Glenormiston, in 1892, on the occasion of a black having been killed by the tribe collectively for murder, a great debate was held as to whether the body should be eaten or not. It was only due to the presence upon the scene of the station-manager (J. Coghlan, from whom I received the report) that decided the question in the negative. On the other hand, it is only fair to state that, so far as I have been able to gather reliable information, I know of no case in North-West-Central Queensland where any adult male or female has been killed for the sole purpose of providing a repast.

On the Eastern Coast, at Cape Bedford, cannibalism is reported, by the blacks themselves, to have been practised in former years, though they would not eat women and children, who were reckoned as being too "soft." Those whom they did partake of were not killed for the special purpose of being eaten, and human flesh never constituted the regular food of the people. The hands and feet were always considered the choicest parts. The practice of eating human flesh was not confined to any particular class or sex.

In the Bloomfield River District, cannibalism has taken place since 1885, but the "subject" was never killed for the actual eating, and only eaten when dying suddenly in otherwise apparent health. It was solely the adults, both male and female, who were eaten; hunger was always the sole cause. R. Hislop has seen the whole of a female eaten, the bulk of the corpse baked, the bones broken and made into soup. As the same authority states, there was no special distinguishing term to express cannibalism, which had no special ceremony attached to it, was not confined to any particular members of the tribe, and was only resorted to when impelled by hunger. There was, however, one instance recorded here where the natives ate the killed on the battle-field, both sides joining in the repast, and subsequently resuming the fight.

On the lower Tully River, though the natives may actually kill to eat, the practice is exceptional, and met with only among the scrub blacks, not the coastal ones. In response to inquiries, the following reasons are given for its observance: As a punishment assigned to a woman for leaving her husband, etc.; for spite, *e.g.*, their enemies killed in war used formerly to be eaten; for pure deviltment. This last is really a true explanation, so as to give cause, for instance, for the commencement of a row at the next "pran" [regular organised fights for which special days are set apart]. A man has thus been known to purposely eat a woman in order to provoke a quarrel with her father: indeed, women are generally the victims in these cases. All parts of the body are eaten, though the legs and arms are considered delicacies, any remains being generally burnt. There are no special ceremonies or cooking-places connected with cannibalism, nor is any particular term applied to human flesh. It is only the men who indulge in the practice, and when relating its occurrence, etc., only do so in whispers; from an objective point of view, they apparently possess some idea of its being "uncanny" even amongst themselves.

Though carefully sought for, I have obtained no reliable evidence of cannibalism being practised in order to acquire any qualities, etc., of the deceased.

39. Narcotics, etc.—Though not actual articles of food, I feel constrained to insert in this Bulletin, before bringing it to a close, some few notes concerning the narcotics, etc., employed by the North Queensland aboriginals.

The principal indigenous one is Pituri, which, if all is well, arrives in the Boulia district, in the rough, about the beginning of March. By "in the rough" is meant the condition, very much like half-green half-yellow tea with plenty of chips, in which it is conveyed in special dilly-bags for barter: the construction of these particular bags has been described in Bulletin No. 1, sect. 28. The pituri shrub (*Duboisia Hopwoodii*, F. v. M.) flowers about January. The supply for the Boulia district is obtained in the neighbourhood of Carlo (*vel* Mungerebar), on the Upper Mulligan. As a matter of fact, the plant grows further eastwards than this, though in scattered patches only—*e.g.*, about 16 miles westwards of Glenormiston head station; a patch of it was also said (in 1895) by the Maitakudi aboriginals to be growing in one of the gullies at Cloncurry, on the Rifle Mountain, where the old target-range used to be. (According to notes taken about the same time) from Boulia and Marion Downs, from Herbert Downs and Roxburgh, messengers are sent direct to the Yulcolinya tribes at Carlo with spears, boomerangs, blankets, nets, and especially red-coloured cloths, ribbons, and handkerchiefs to exchange and barter for large supplies of the drug. On its advent at Roxburgh, the pituri may travel partly up the Georgina and partly along the ranges to the Kalkadun, who may supply the Maitakudi with it, but very little gets further eastward. From Boulia it is sent up the Burke, and so through the Yellanga and Kalkadun, again carried to the Maitakudi, or may be forwarded on to Warenda and Tooleybuck. Marion Downs sends it *viâ* Springvale, etc., to the (middle) Diamantina, where it may go up as far as Elderslie and Winton, very little, if any, ever reaching the Thomson River. It may be stated, without fear of contradiction, that the export of the drug from the Mulligan opens the annual market, with all its ramifications of trade and barter, for the north-west Central districts. Arrived at its destination, the pituri is prepared for use as follows:—After roasting in the ashes the pituri-chips become pliable, so as to be easily bent, and are then wetted with water if in large quantity or with sputum if in small, and teased up with the fingers so as to remove all the bigger pieces. Some leaves of the *Acacia hakeoides*, A. Cunn. (PPT, pukartika), or of the *Acacia homalophylla*, A. Cunn., when the former is not obtainable, are next heated over the fire, and then burnt, the ashes being retained. The pituri in its moist state is now mixed with these ashes on some smooth surface, wooden trough, etc., and worked with the fingers into small rolls about 2½ inches long by ¾ inch diameter, which "quids" are now ready for chewing. Sometimes, the quid is teased up with some shreds of native flax (*Psoralea*) to give it compactness and intercoherence. When not being chewed, these rolls are carried worn above and behind the ear. Amongst the aboriginals there appears to be as great a craving for pituri as amongst Europeans for alcohol, a fact which is put into practical and economic use by drovers, station managers, and others: local blacks will usually give anything they possess for it—from their women downwards—"not for the purpose of exciting their courage or of working them up to fighting pitch, but to produce a voluptuous dreamy sensation." Pituri may sometimes be smoked in pipes, as reported to me by Mr. Reardon, of Carlo, when the Mulligan blacks run short of their tobacco supply. The Kalkadun blacks speak of the drug as moob, the Boulia natives call it tarembola—a different name in each district.

At certain of the corrabboree on the lower Tully River some of the blacks will chew, and spit out again, the leaves of the "stinging-tree," *Laportea* sp. (MAL, dungan). The immediate effect is apparently a condition of frenzy, in which the individual may take violent action on his mates, or perhaps more commonly produce in himself a grossly disgusting perversion of the alimentary functions which enables him to eat human excreta.

Speaking of the Endeavour River natives, Lieutenant Cook says, "Whether they are acquainted with any plant that has an intoxicating quality we do not know, but we observed that several of them held leaves of some sort constantly in their mouths, as an European does tobacco . . . whatever it was, it had no effect upon the teeth or lips."

With very few exceptions, tobacco is now known to, and indulged in, by most of the blacks throughout North Queensland: among such exceptions are the natives of Bentinck and Mornington Islands. During the present year, when visiting the latter, some four men were presented with pipes and tobacco, but, before they could be prevented, two of them swallowed, without even chewing, the half-pieces of plug given them: they apparently thought it an article of food, and accordingly one ran into the forest, whence he soon returned with a bark troughful of cooked fish, which, under the special circumstances of a first visit, common courtesy compelled me at least to taste. Where European pipes and tobacco are scarce, segments of bamboo—indigenous, obtained in barter, or washed ashore—are brought into requisition. The one extremity of such a segment is closed, with bee's wax if necessary, and a small hole drilled at the side in its proximity. Tobacco-smoke from any ordinary pipe is expelled into the open extremity of the bamboo, whence it is inhaled through the drilled aperture by the other individuals to whom it may in turn be handed. The process may be reversed, the smoke being expelled into the smaller, and exhaled at the larger, opening. On other occasions the bamboo may be closed at both ends, two holes being drilled laterally, one at either extremity, each answering its purpose as before. No matter these variations, the segment acts as a reservoir, not only in preventing waste, but also in enabling several individuals to enjoy the benefits of the one pipeful of tobacco. In addition to exhaling in the ordinary fashion—through the mouth—smoke is very commonly ejected through the nostrils. When tobacco is not procurable at Mapoon, the aboriginals will smoke Granadilla (*Passiflora quadrangularis*, Linn.) leaves, but I do not know of any indigenous plants utilised elsewhere at such times. At Quamby, in the Cloncurry district, the Kalkadun blacks used often to prepare their tobacco in a manner similar to the pituri, mixing it into a quid with ashes of the *Acacia homalophylla* leaves, and then chewing it.

Opium, obtained mainly from the Chinese, is exerting a far more deleterious influence on the aboriginals than alcohol: the usual method of indulging the craving is to mix the smoked ashes (opium charcoal) with water, and drink it.

Though the blacks indulge in drinking water sweetened with various blossoms, &c.—*e.g.*, *Banksia dentata*, *Bauhinia Carronii*, *Calamus australis*, *Livistona humilis*, *Pandanus* sp.—it is never allowed to undergo fermentation.

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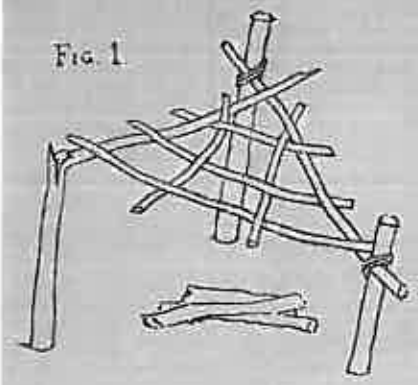
Fig. 1.



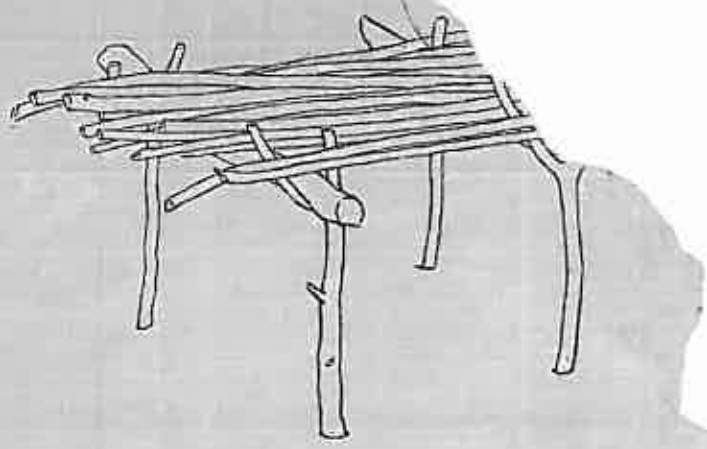


Fig. 3.

Fig. 4.

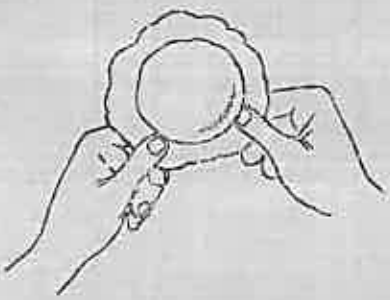


Fig. 5.

Fig. 6.

Fig. 7.