

ould rapidly kill. At the same time
 they say that Opoo sap, freshly gathered
 from the tree will not necessarily kill
 if a little is taken into the stomach &
 as I have certainly found to be true
 the extent of 30 drops, having drunk
 that quantity without harm.

Does this point to some chemical
 combination of the ingredients?

The order of adding the various items
 is always the same & when I wanted
 to change it on one occasion, the
 Pangghans told me that the completed
 poison would not be so strong. Is this
 superstition or some practical knowledge?

The Pangghans say that this
 poison was always made in the same
 way, but it appears to me that the
 addition of the "QADONG" and the "PIYUNG"
 probably of later date than the others
 for this ^{following} reason. Both these items are eaten
 by Malay & Sakai alike if first boiled
 in small pieces and placed in running
 water for 24 hours, so as to extract the
 poison. This so much resembles the
 process followed in preparing the bitter
 reoava (manihot ^{urillicissima} ~~indica~~), which, though
 not native to the peninsula has rapidly

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spread over all the Sakai clearing
that it is I think, at least a question
whether the Malays did not experiment
in extracting ^{the poison} & rendering ^{by similar means} edible, other
jungle growths, previously known to them
as poisonous when unprepared.

Against this there is of course the
argument that the Parigians are the
only Sakais who use Gadong & Pising
poison & that they may have known
of their poisonous properties long before
they knew how to render them edible.
Certainly they know of many
other poisons which they never attempt
to ~~use~~ in "Ipoo" quite clearly distinguish-
ing between blood & stomach poisons.

The Parigians state that there
is no cure for the "black poison"
210719 With regard to statements of early
writers as to the danger of close contact
with the cut Ipoo tree, I have myself
cut down four, have spent three or four
hours sitting on the trunk waiting
for the sap to run out of the incised
rings. Have had my hands and arms
stuck with the sap & on occasion
by way of experiment laid down

alongside the trunk & went to sleep for a night, without the slightest ill effect to myself. I have had my head close over the boiling sap, inhaling the strong smelling ~~etc~~ vapour rising for an hour or more, without any nausea, headache or other unpleasant result: & never experienced itching as following the application of sap to the skin, or any irritation to the eyes from its proximity.

Botanical Notes.

from the Director of the Botanic Gardens, Singapore. —

Blay Besar. appears to be decidedly a ~~variety~~ ^{species} of *strychnos*.

Blay Hitam. In all probability the "Tiente" of Java. certainly of a "*strychnos*" "*Blay Kichu*" unknown at present. but not a "*strychnos*".

"Ple" "*Penghor*" & "*Bhoi*" not known "*Choihoi*" "*Tree*" "*Lendow*" and "*Garung*" not yet identified.

"*Bhow*" not known.

"*Nyung*" appears to be a variety of "*Passiflora edule*".

Notaw Kiong & Kutong: apparently
remained "Calami"

Pumpi = Laportea sp.

Getatung = "Cnesmone javanica"

Bal = Piper sp.

Sedudo = ~~not known~~

Bequng = Amorphophallus sp.

Gadong = ~~Dioscorea~~ dioscorea

Slouung: not known

Ringlut: appears to be Epipremnum giganteum

But Mr. Ridley, the Director, is
in communication with Calcutta
& will give me further & more positive
information later.

Note. Notaw Kiong sap appears to
have the property of rotting cloth
(linen) very rapidly.

Note. The various tribes of Sakai
often boil the good saps after
getting it from the tree, before
storing it in their baskets, but it
is not always done & many say
that it will keep just as well
unboiled, for any period desired
a few leaves only are put in the
top of the containing bamboo, as
a stopper.

(95)

Box 'C'

and saps
Barks, for poison.

Pangghan tribe

The ten large square Herocrene
tins contain each a proportionate
and the thirteen round tins, the same of poison saps
quantity of poison bark, for experiment
and analysis. When these barks were
fresh from the tree they occupied a
much greater space and were measured
by the Sakais, in that condition, to agree
with the quantity of "Spoo" sap (4 bottles)
The rule is that the finished poison,
in volume, will just equal that
of the fresh "Spoo" sap used in it, the
added ingredients just compensating
for the evaporation in boiling. Hence,
if you divide the contents of each tin
into four parts you will have, ^{by each part} the
proper quantity for one bottle of "Spoo"
sap. Each bottle of "Spoo" sap contains
the "Spoo" for 10 bamboos of prepared
poison, and each bamboo of prepared
poison is upon completion, divided
into 10 tubes, one for each of ten
men. Each tube will tip 100 darts
This is "Pangghan" calculation and
does not apply to other tribes (which
will be given at later date)
As the bottles of saps, other

than "Goo" sap, are in the same proportion you can readily weigh or measure them exactly. (NB. You will see that some saps are in double quantity of bulk to others having two bottles instead of one)

Enough for a bamboo (10 men) is boiled and prepared at one time the quantities of various ingredients being measured by the operator by eye only. In order to obtain an average for that cant. I had these barks and saps measured in "10 man" quantities, as in actual practice, by five different Sakais and found that the ten parcels though measured by eye alone were almost identically the same in size.

Where the saps, were a little more than would just go into I fill up the complete bottle I had it slightly concentrated by drying over a fire, till reduced to the bulk desired, with the double object of economizing ~~space~~ space in packing.

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and not leaving much ~~air~~ ^{individual} in the bottle
as the whole of ~~each~~ ^{individual} sap was so
treated, there is no difference in
strength in either bottle where
they happen to be two bottles necessary

There is one point it is necessary
for you to notice. In the bottle of
Kotau "Kiong" sap is some ordinary
candle grease, the bottle having
been used as a candlestick by
me and I did not notice it as
the sap was poured in. As I corked
I wired down the corks at once
I did not like to open it on
arrival at Singapore, to change it
to another bottle so give this
explanation that you may remove
it there on arrival

The Sallahs keep these saps
for months, ^{if not wanted for immediate use} in bamboo tubes
with leaves as stoppers, & aver
that they do not in any
way lose their poisonous
properties. I cannot say if they
ferment but as a precaution have
had them soldered in separate tins

The proportionate quantities of the other ingredients named on page are, for the four bottles of Spoo sent you

- Chow 120 nuts
- Piyung 120 "
- Kumpi 160 leaves
- Jelating 160 "
- Bal 80 roots
- Sedado 40 "

Bequng 40 tubers

Gadong as much as 10 quarts (approximately) of water, would cover. The measure appears to be a bamboo joint full for each boiling & varies considerably.

Slowing 280 fruits

Pingbut 40 "

Scorpion tails 80

Centipede heads 80

Snakes d. any quantity obtainable but not less than 10 to each bottle of "Spoo" sap, if "full" poison is desired.

These quantities are multiplied from the quantities used in preparing a small quantity of poison.

Food of the Kenia
 The Kenia like other Sakkais will
 eat any living thing he can obtain, but
 they have been so long in communication
 with the Malay that they are not now
 so dependant upon the jungle supply.

The sumpitan has almost died
 out, but they have a number of most
 ingenious traps & when travelling from
 one place to another catch six thousand
 birds, fish, frogs, rats, snakes, monkeys,
 squirrels, deer, porcupine, muskels
 but when in their houses & clearings
 & particularly when working at
 collecting rotans &c for the Malay
 they live principally on padi (padi)
 rice dry or fresh, Indian corn, and
 Cassava. They grow sweet potatoes, pump
^{sugar cane} ~~melons~~ & papaw apples (papaya) in
 their clearings and generally have
 fowls. The Kenia can always obtain
 padi to plant on the hill slopes.

Most of them still know the jungle
 roots & plants, which are eatable but
 are not often called upon to resort
 to them.

(9)

Making the Kuantan Sumpitan. N° 10
These rude weapons. (see box
A. on top.) are from the internodes
of the "Semiliang" bamboo (N° 22).
There is a river in their district, so
named from the abundance of this
particular bamboo on its banks but
it only grows in certain places in the
peninsula. The joints are not long
enough for an unjoined tube like
many among the Siamese & Annamese
as they are roughly joined by a
sheath taken from the base of the
leaf of the "Lengkap" palm (N° 19).
The sheath comes readily off upon
the leaf being heated over a fire.
Should the internodes warp they
are heated over a fire & placed under
pressure of any kind till corrected.
Upon the ~~the~~ tubes being inserted
one within the other, the end ^{one} is
warmed and a little resin (N° 67)
is rubbed over it so as to cement
the two ends together & the same
upon putting the "Lengkap" sheath
over the joint. A piece of cloth
(formerly a binding of native fibre)