



## Research Article

# Medicinal plants documentation of Dayak Benuaq tribe in Intu Village, Nyuatan District, West Kutai, East Kalimantan

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### ABSTRACT

The Dayak Benuaq tribe is one of the tribes in Indonesia who live in East Kalimantan. They have various knowledge related to raw materials and medical treatment traditions for generations that have never been documented, especially in Intu Lingau Village, Nyuatan District, West Kutai, East Kalimantan. This study aims to documentation of medicinal plants and herbs of the local communities. The finding shows that there are 104 plants used, which is divided into 34 families. The most common plant parts used in the treatment were leaves, the most common processing method was boiling, and the most utilized method was by drinking.

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## INTRODUCTION

"Tanaa Purai Ngeriman" is the motto of the West Kutai land which has the meaning of the fertile land of abundant prosperity. Kutai Barat is a city located in East Kalimantan Province and inhabited by the Dayak Benuaq tribe (Lestari, 2015). The tribe still preserves the cultural traditions of their ancestors while maintaining their traditions, especially in their belief in preserving the inheritance of traditional medicine for generations.

Treatment using medicinal plants is now no stranger to the Dayak Benuaq or other tribal communities in Indonesia because from the past until now, people have used various types of medicinal plants in treating a disease. Medicinal plants can grow in the garden or yard, either intentionally planted or grow wild (Zaman, 2009). As a first step that is very helpful to know a medicinal plant from traditional community knowledge for generations.

According to Arsyah (2014), traditional medicine was

widely used by the middle and lower class people in efforts to prevent disease (preventive), healing (curative), health recovery (rehabilitative), and health promotion (promotive).

One of the cities that have many medicinal plants is West Kutai City, especially in Intu Lingau Village which is one of the areas where the people still maintain their ancestral traditions by using traditional plants and herbs to treat a disease that has been known by the people for a long time.

Maintaining and preserving local culture can be done in various ways. However, documentation of tradition, culture, and research on medicinal plants and herbs and how to use them by the community has never been done. So, how to use medicinal plants and herbs in that area which have not fully identified and recorded. Therefore, we choose to record the medicinal plants and herbs that were beneficial for the Dayak Banuak tribe and the wider community.

## RESEARCH METHODS

The research was conducted to determine the species of medicinal plants and herbs used by the Dayak Banuak tribe in Intu Lingau Village, Nyuatan District, West Kutai Regency. This research is a descriptive study in which the research process will be conducted an open-ended interview so that it will produce descriptive data. Criteria for interviewees were traditional health workers (such as medicaster, traditional midwife, traditional massage therapist) and herbalists found in Intu Lingau Village, Nyuatan District, West Kutai Regency, that know traditional medicine, and can communicate well and are willing to be an interviewee.

This study used quantitative and qualitative descriptive techniques for data analysis. The result of the interview then grouped by species, parts of plants, herbs used, choice of methods for processing medicinal plants, and the most utilizing method by the Dayak Benuaq tribe.

## RESULT AND DISCUSSIONS

From interviews with interviewees in Intu Village, Nyuatan District, West Kutai, East Kalimantan, 104 species of plants were used by the local community as traditional medicine and the first step for treating a disease. Medicinal plants had been obtained from the forest, garden, yards, and cultivation. List of medicinal plants is in [Table 1](#).

Based on the results ([Table 1](#)), the types of plants most widely used by the Benuaq Dayak tribe in Intu Lingau Village come from the family Zingiberaceae

(5%), Poaceae (5%), Rubiaceae (4%), Moraceae (3%), Malvaceae (3%), Lauraceae (3%), and Araceae (3%). In this study also not all plants were found family and scientific names.

Plant parts used in the form of leaves, roots, stems, branches, buds, flowers, fruit, sap, water, bark, rhizomes, fruit peels, seeds, and tubers. The most widely used plant parts are 48 types of leaves and 26 types of roots. The use of leaves has the most significant percentage because the leaves are a part that is very easy to find and always available, and their use and utilization are relatively easy and straightforward. The leaves are generally soft-textured and have a lot of water content. According to [Sada & Tanjung \(2010\)](#), leaves are the most easily obtained and easily mixed as a drug compared to the skin, roots, and stems.

Based on the processing methods carried out on medicinal plants, eight methods have been found ([Table 2](#)), which are done by mashing, boiling, dredged/scrapped and boiling, smoked/heated, grated and squeezed, soaked/brewed, burned, and without being mixed.

Of the eight methods used, it turns out that most processing was by boiling while the least used is by burning. Method of processing by boiling was widely used because the process of boiling because can remove substances contained in plants and has a reaction that is so fast when taken by mouth compared to other methods ([Simbala, 2016](#)). Furthermore, it can attract substances contained in plants and will quickly react in the body when the boiled water was drunk compared to others. The boiling process is usually done on the leaves, roots, stems, and skin of plants.

In addition to processing, there are also common ways to use the processed product of medicinal plants ([Table 3](#)), that is by drinking, eaten, chewed, bathed, pasted, smeared, dropped, washed, and rubbed. Drinking is the most widely used method by communities in consuming the processed product of medicinal plants, while the least is by chewing medicinal plants because drinking is the most common and easiest way to do it and gives an effect faster than other methods.

Based on its use, medicinal plants are more widely used by communities to treat internal medicine, while to treat diseases in the oral cavity as well as for infants and children are very few while external diseases such as wounds, toothache, and eye pain, flu in children are infrequent ([Table 4](#)).

**Table 1.** List of medicinal plants in Intu Village, Nyuatan District, West Kutai, East Kalimantan

Local Name	Latin name	Family	Habitus	Bagian yang digunakan
Akar klagit	-	-	Forest	Water
Alang-alang	<i>Imperata cylindrica</i> (L.) Beauv	Poaceae	Garden	Root
Alpukat	<i>Oersea Americana</i> Mill	Lauraceae	Garden	Fruit
Aren	<i>Arenga pinnata</i> (Wumrb) Merr	Magnoliopsida	Garden	Water
Bakuq meak	-	-	Forest	Leaves, bud
Bayam berduri	<i>Amaranthus Spinosus</i> L.	Amaranthaceae	Garden	Root
Bayam hijau	<i>Amaranthus gangeticus</i>	Amaranthaceae	Garden	Leaves sap
Bawang merah	<i>Allium cepa</i> L.	Liliaceae	Cultivation	Fruit
Bawang dayak	<i>Eleutherine Americana</i>	Iridaceae	Cultivation	Fruit
Belimbing sentaru	<i>Averrhoa bilimbi</i> L.	Oxalidaceae	Cultivation	Bark
Betolan	-	-	Garden	Leaves
Bemaqng	-	-	Garden	Leaves
Bemerai kuning	<i>Curcuma xanthorrhiza</i> ROXB	Zingiberaceae	Cultivation	Rhizomes
Benalu batu	-	-	River	Root
Benalu kayu	-	-	Forest	Root
Bengker	-	-	Forest	Bark
Binahong	<i>Andreda cordiforia</i> (Ten.) Steenis	Bacelaceae	Cultivation	Leaves
Blaban meak	-	-	Forest	Bark
Buah kemiri	<i>Aleurites moluccana</i> L.	Euphorbiaceae	Garden	Bark
Buah mabek	-	-	Forest	Fruit peel
Bunga pangir	-	-	Garden	Flower
Buah wakau	<i>Physalis angulata</i> L.	Solanaceae	Garden	Leaves, root
Daoqng cabau tuha	<i>Manihot esculenta</i> Crantz	Euphorbiaceae	Garden	Leaves
Daun bakuqng	<i>Crynum asiaticum</i> L.	Amaryllidaceae	Garden	Leaves
Daun biyowo	-	-	Cultivation	Leaves
Daun gaharu	<i>Aquilaria mallaccensis</i> Lam.	Malvaceae	Cultivation	Leaves
Daun jambu	<i>Psidium guajava</i> L.	Myrtaceae	Garden	Leaves
Daun pacar	<i>Impatiens balsamina</i> L.	Balsaminaceae	Garden	Leaves
Daun salam	<i>Syzygium polyanthum</i> Wigh Walp	Myrtaceae	Garden	Leaves
Daun selasih	<i>Ocimum basilicum</i> L.	Lamiaceae	Garden	Leaves, seed, root
Durian merah	<i>Botanical name</i>	Malvaceae	Garden	Bark
Gambir	<i>Uncaria gambir</i> Roxb.	Rubiaceae	Garden	Leaves
Gingseng hutan	-	-	Forest	Bark
Gringgang	<i>Cassia alata</i> L.	Fabaceae	Garden	Leaves
Jahe merah	<i>Zingiber officinale</i> Var.	Zingiberaceae	Cultivation	Rhizomes
Jangang	-	-	Forest	Leaves
Jaung	-	-	Cultivation	Bud

Jomit ketemuq	-	-	Cultivation	Rhizomes
Jeruk nipis	<i>Citrus aurantiifolia</i>	Rutaceae	Garden	Fruit
Kaca beling	<i>Sericocalyx crispus</i> L.	Acanthaceae	Garden	Leaves
Kaser	-	-	Forest	Leaves, bark
Kreteg boruq	-	-	Forest	Sap, seed
Krehauw	-	-	Garden	Leaves
Kunyit kuning	<i>Curcuma longa</i> Linn	Zingiberaceae	Cultivation	Rhizomes
Kumis kucing	<i>Orthosiphon stanineus</i> Benth.	Lamiaceae	Garden	Leaves, root
Kencur	<i>Kaempferia galanga</i> L.	Zingiberaceae	Cultivation	Rhizomes
Kunyit putih	<i>Curcuma mangga</i> Val.	Zingiberaceae	Cultivation	Rhizomes
Kayu anggi	-	-	Forest	Oil
Kayun rionqng	-	-	Forest	Leaves
Kayu manis	<i>Cinnamomum burmannii</i>	Lauraceae	Garden	Bark
Kayu benep	-	-	Forest	Bark
Komat	-	-	Garden	Leaves
Kopi	<i>Coffea</i> Sp.	Rubiaceae	Garden	Fruit
Krohng	-	-	Garden	Leaves
Kapuk	<i>Ceiba pentandra</i> L.	Malvaceae	Garden	Leaves
Langsat	<i>Lansium domesticum</i> Corr	Meliaceae	Garden	Fruit, bark
Lelutung tukaqng	-	-	Forest	Sap
Liyasi	-	-	Forest	Bark
Lung merah	-	-	Garden	Leaves
Mahkota dewa	<i>Phaleria macrocarpa</i>	Thymeleaceae	Garden	Root
Maliqng	-	-	Garden	Leaves
Mengkudu	<i>Morinda citrifolia</i> L.	Rubiaceae	Garden	Fruit
Muqng	-	-	Garden	Leaves
Nangka	<i>Artocarpus heterophyllus</i>	Moraceae	Garden	Leaves
Nulaqng	-	-	Cultivation	Leaves, root
Oluqng	<i>Typhonium flagelliforme</i> (L.) Bl	Araceae	Sungai	Leaves
Pakuq meak	-	-	Forest	Branch stem
Pasak bumi	<i>Liuricoma longifolia</i> Jack	Simaroubaceae	Forest	Bark
Pakis hati	-	-	Forest	Bark
Pecut kuda	<i>Stachytarpheta jamaicensis</i> (L.)	Verbenaceae	Garden	Leaves
Pepaya	<i>Carica papaya</i> L.	Caricaceae	Cultivation	Fruit, leaves, root
Pengawer	<i>Tinospora crispa</i> L.	Menispermaceae	Garden	Root bark
Pinang	<i>Areca cathecu</i> L.	Araceae	Garden	Root
Pisang grantap	<i>Musa paradisiaca</i>	Musaceae	Garden	Sap
Puput	-	-	Garden	Leaves
Putri malu	<i>Mimosa pudisa</i> L.	Fabaceae	Garden	All parts

Rikut kamiqng	<i>Argerantum conyzoides</i> L.	Asteraceae	Garden	Leaves
Rumput bambu	<i>Lopatherum gracile</i> Brogn.	Poaceae	Garden	Root
Rumput bakuk	<i>Pennisetum purpureum</i>	Poaceae	Garden	Root
Rumput buncar	<i>Andropogon aciculatus</i>	Poaceae	Garden	Leaves
Sarang semut	<i>Myrmecodia pedans</i>	Rubiaceae	Forest	Fruit
Seluang belum	<i>Luvunga crassifolia</i> (B.) kurz	Rutaceae	Forest	Root
Serai	<i>Cymbopogon citratus</i>	Poaceae	Cultivation	Leaves
Sirih hijau	<i>Piper battle</i> L.	Piperaceae	Cultivation	Leaves
Sunta	<i>Morus alba</i> L.	Moraceae	Garden	Root, fruit, leaves
Sirih merah	<i>Piper crocatum</i>	Piperaceae	Cultivation	Leaves
Sabek lemir	-	-	Cultivation	Leaves, root
Sambiloto	<i>Andrographis paniculata</i> Burm. F. Nees	Acanthaceae	Garden	Leaves
Senggani	<i>Malastoma candidom</i> D.	Melastomataceae	Garden	Leaves, root
Talas	<i>Colocasia esculenta</i> (L.) Schoot	Araceae	Garden	Bulb
Tabat barito	<i>Ficus deltoidea</i> Jack	Moraceae	Forest	Leaves
Tanduk rusa	<i>Platynerium bifurcatum</i> (Cav.) C. Chr	Polypodiaceae	Forest	Leaves
Topus mais	-	-	Garden	Root
Topus tongau	-	-	Forest	Bark
Ulin	<i>Eusideroxylon zwageri</i> T.	Lauraceae	Garden	Bark
Urat bumi	-	-	Forest	Root bark
Wakai kliat	-	-	Forest	Water
Wakai langir	-	-	Garden	Bark
Wangun	-	-	Garden	Leaves, bark
Wakai ketokoqng	-	-	Forest	Root
Weore	-	-	Forest	Leaves
Selentukuy uyat	-	-	Garden	Leaves
Wakai tembelek	<i>Lantana camara</i>	Verbenaceae	Garden	Root, Leaves
Cocor bebek	<i>Bryophyllum pinnatum</i>	Crassulaceae	Garden	Leaves

**Table 2.** Processing methods of medicinal plants in Intu Village, Nyuatan District, West Kutai, East Kalimantan

Processing	Local name	Percentage (%)
Mashing	Wakai langir, kaser, rikut kamiqng, krehauw, daun pacar, daun gambir, buah kemiri, sunta, kayu benep, kopi, sambiloto, rumput buncar, nangka, bengker, maliqng, pecut kuda, puput, oluqng, blaban meak, talas, putri malu, tanduk rusa, pasak bumi, wangun, ulin, durian.	25
Boiling	Bentolan, nulaqng, seluang belum, akar kuning, sarang semut, daun gaharu, pasak bumi, kaca beling, kumis kucing, alang-alang, pinang, daun jambu, kapuk, sirih hijau, sirih merah, serai, pengawer, selasih, papaya, bakuk meak, sabek lemir, daonqng cabau tuha, kemiri, pakis hati, jomit ketemu', komat, rikut bamboo, geringgang, jaung, sambiloto, buah wakau, putri malu, belimbing sentaru, jahe, buah wakau, tanduk rusa, bayam berduri, gingseng hutan, topus tongau, weore, rikut bakuk.	39
Smoked/heated	Selentukuy uyat, Daun muqng, Komat	3
Grated and squeezed	Mengkudu, Bawang hutan, Kunyit kuning, Pengawer, Bemeraai kuning, Bawang merah	6

Smoked/brewed	Wangun, Krehauw, Daun muqng, Gingseng hutan, Sarang semut, Bawang hutan, Pasak bumi, Tabat barito, Akar kunyit putih, Kapuk, Bunga pangir, Daun biyowo, Akar binahong, Mahkota dewa, Benalu batu, Benalu kayu, Topus mais, Urat bumi, Lung merah, Bakakang, Kayu manis	20
Burned	Buah mabek, Kreteg boruq	2
Without being mixed	Kreteg boruq, Wakai kliat, Aren, Daun jambu, Daun sirih hijau, Serai, Kayu anggi, Selasih, Kayun rionqng, pisang grantap, Bayam hijau, Gringgang, Suntan, Daun salam, Bemaqng, Jangang, Lelutung tukaqng, Alpukat, Krehauw, Akar klagit, Mengkudu	20

**Table 3.** Common ways to using medicinal plants processed product in Intu Village, Nyuatan District, West Kutai, East Kalimantan

Used washed	Medicinal plant	Percentage (%)
Drinking	Kreteg boruq, wakai kliat, kaser, rikut kamiqng, krehauw, daun muqng, nulaqng, bentolan, gingseng hutan, seluang belum, akar kuning, sarang semut, bawang hutan, lelutung tukaqng, akar klagit, aren, daun gaharu, pasak bumi, tabat barito, kunyit kuning, kaca beling, kumis kucing, akar kunyit putih, alang-alang, sirih hijau, sirih merah, serai, pengawer, selasih, papaya, bemeai kuning, bakuk meak, sabek lemir, kemiri, akar binahong, pakis hati, mahkota dewa, benalu batu, benalu kayu, topus mais, urat bumi, lung merah, jomit ketemu', langsung, komat, rikut bamboo, geringgang, suntan, jaung, kayu manis, kopi, sambiloto, ulin, rikut bakuk, krohung, topus tongau, weore, bayam berduri, buah wakau, belimbing sentaru, jahe, jeruk nipis, kencur, pinang, daun jambu, kapuk.	64
Eaten	Mengkudu, daun jambu biji, daon cabau tuha, suntan, nangka.	5
Chewed	Liyasi	1
Bathed	Wangun, bunga pangir, daun biyowo	3
Pasted	Wangun, kapuk, sirih hijau, serai, selasih, daun pacar, gambir, selentukuy uyat, komat, rikut buncar, daun salam, daun bakung	12
Smearred	Buah mabek, kaser, wangun, rikut kamiqng, mengkudu, kayu anggi, pengawer, kayun rionqng, pisang grantap, bayam hijau, geringgang, bengker, maliqng, pecut kuda, puput, oluqng, blaban meak.	16
Rubbed.	Rikut kamiqng, wakai langir, kemiri, benep, ulin, durian meak, jangang, talas	8
Washed	Tabat barito, sirih merah, lung meak, bemaqng, putri malu	5
Dropped	rikut kamiqng, kunyit kuning, bawang merah, sambiloto	4

**Table 4.** Medicinal plants use in Intu Village, Nyuatan District, West Kutai, East Kalimantan

Indication	Medicinal plant
Beauty	Kaser, Wakai langir, Wangun, Mengkudu, Daun pacar, Gambir, Kemiri, Kayu benep, Ulin, Durian, Bengker, Jangang, Blaban meak, Talas, Alpukat.
For women	kreteg boruq, lelutung tukaqng, krehauw, jahe merah, kencur, sirih hijau, sirih merah, papaya berbunga, tabat barito, topus mais, lung merah, buah wakau, rumput bakuk, nangka, senggani.
Child and baby	buah mabek, daun selasih, wangun, bunga pangir, daun biyowo, bayam hijau, mengkudu.
Oral cavity disease	kemiri, liyasi, pisang grantap, suntan, sambiloto, maliqng, pecut kuda.
Skin disease	rikut kamiqng, muqng, geringgang, nangka, oluqng, bayam berduri.

Internal disease	kreteg boruq, nulaqng, gingseng hutan, wakai ktikoqng, sarang semut, bawang dayak, wakai kliat, lelung tukaqng, aren, bawang merah, buah wakau, kunyit kuning, kaca beling, kumis kucing, muqng, bentolan, akar kunyit putih, alang-alang, pinang, sirih hijau, pengawer, papaya berbunga, bemerai kuning, sabek lemire, selentukuy uyat, kemiri, pasak bumi, pakis hati, mahkota dewa, urat bumi, lung meak, jomit ketemu', langsung, gringgang, jaung, kayu manis, kopi, rumput buncar, oluqng, krohung, topus tongau, weore, belimbing sentaru.
General disease	wakai kliat, kaser, rikut kamiqng, mengkudu, krehauw, muqng, gingseng hutan, seluang belum, pakuk meak, wakai ketikoqng, akar klagit, daun gaharu, daun jambu, kapuk, sirih hijau, kayu anggi, serai, pengawer, bakuk meak, jeruk nipis, daonq cabau tuha, papaya, pakis hati, benalu batu, benalu kayu, urat bumi, jomit ketemu', komat, alang-alang, buah wakau, sunta, maliqng, puput, daun salam, daun bakung, bemaqng, topus tongau, senggani, belimbing sentaru, tanduk rusa.

## CONCLUSION

Based on the results of research conducted on an inventory of medicinal plants and traditional herbs of the Dayak Benuaq tribe in Intu Lingau Village, it can be concluded that there are 104 types of plants used for the treatment of various diseases, which is divided into 34 families. The most common plant parts used in the treatment were leaves, the most common processing method was boiling, and the most utilized method was by drinking.

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