



RESEARCH COMMUNICATION

Ethnobotanical study of medicinal plants in Natai Sedawak village, Sukamara Regency, Central Kalimantan, Indonesia

Milad Madiyawati*, Fouad Fauzi, Reri Yulianti, Rini Dwiastuti & Yusintha Tanduh

Faculty of Agriculture, University of Palangka Raya, Indonesia

*Email: milad.madiyawati@for.upr.ac.id



ARTICLE HISTORY

Received: 17 May 2022
Accepted: 27 August 2022

Available online
Version 1.0 : 28 October 2022
Version 2.0 : 28 October 2022
Version 3.0 : 03 December 2022



Additional information

Peer review: Publisher thanks Sectional Editor and the other anonymous reviewers for their contribution to the peer review of this work.

Reprints & permissions information is available at https://horizonepublishing.com/journals/index.php/PST/open_access_policy

Publisher's Note: Horizon e-Publishing Group remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Indexing: Plant Science Today, published by Horizon e-Publishing Group, is covered by Scopus, Web of Science, BIOSIS Previews, Clarivate Analytics, NAAS etc. See https://horizonepublishing.com/journals/index.php/PST/indexing_abstracting

Copyright: © The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited (<https://creativecommons.org/licenses/by/4.0/>)

CITE THIS ARTICLE

Madiyawati M, Fauzi F, Yulianti R, Dwiastuti R, Tanduh Y. Ethnobotanical study of medicinal plants in Natai Sedawak village, Sukamara Regency, Central Kalimantan, Indonesia. *Plant Science Today*. 2023; 10(1): 1–4. <https://doi.org/10.14719/pst.1895>

Abstract

The aim of the study was to inventory ethnobotanical potential of medicinal plants used by the people of Natai Sedawak and to know the diversity of the medicinal plant species in the forest of Natai Sedawak Village. This study used an exploratory survey method and data collection techniques with interviews and direct observations in the field. The study concluded that in the village of Natai Sedawak, 62 species of medicinal plants were found whose roots, stems, seeds, fruit, flowers, leaves, bark and sap are being used for various medicinal purposes by the local people.

Keywords

Ethnobotany, medicinal plants, questionnaire survey

Introduction

Indonesia's tropical forests, consisting of various types of ecosystems, are a repository of biodiversity for more than 239 types of food plants and more than 2039 types of medicinal plants that are useful for health and treating various diseases of humans and livestock. The population of Indonesia is more than 220 million people, most of whom live in rural areas and live around forest areas (as local communities). In general, they have the ability, life experience and traditional wisdom in managing natural resources as well as their utilization. The link between biodiversity and local systems that live in the community can be seen in the daily life of traditional communities in meeting their needs for food, clothing, shelter, medicine and spirituality (1-4).

In Indonesia, although modern health services have developed, the number of people who use traditional medicine remains high. According to the 2001 National Socio-Economic Survey, 57.7% of Indonesia's population did self-medication without medical assistance, 31.7% of them used traditional medicinal plants and 9.8% chose other traditional methods of treatment. Indonesia has a culture of traditional medicine, including the use of medicinal plants for a long time and has been preserved from generation to generation. However, the existence of cultural modernization can cause the loss of traditional knowledge possessed by the community (5, 6).

This trend also occurs in traditional communities in Indonesia. Every tribe in Indonesia has traditional knowledge which is usually passed down from generation to generation, which is generally done orally. The traditional knowledge possessed by each tribe in Indonesia needs to be documented through ethnobotanical studies so that the knowledge of the use of plants

owned by each tribe is not lost in cultural modernization. The people of Natai Sedawak Village still adhere to the culture of their ancestors, including in treatment efforts that still use medicinal plants around them for treatment or health care. They know the use of plants as ingredients of traditional medicine and apply them in their daily life. The inventory of medicinal plant species and their potential use as medicinal plants for the people of Natai Sedawak Village has never been carried out, so this research is expected to reveal public knowledge in utilizing plants as traditional medicine. It is hoped that the local/traditional knowledge of the people of Natai Sedawak Village can be well documented so that it remains sustainable.

Materials and Methods

Research on the ethnobotany of medicinal plants was carried out in Natai Sedawak Village, Sukamara District, Sukamara Regency, Central Kalimantan, Indonesia (Fig. 1).

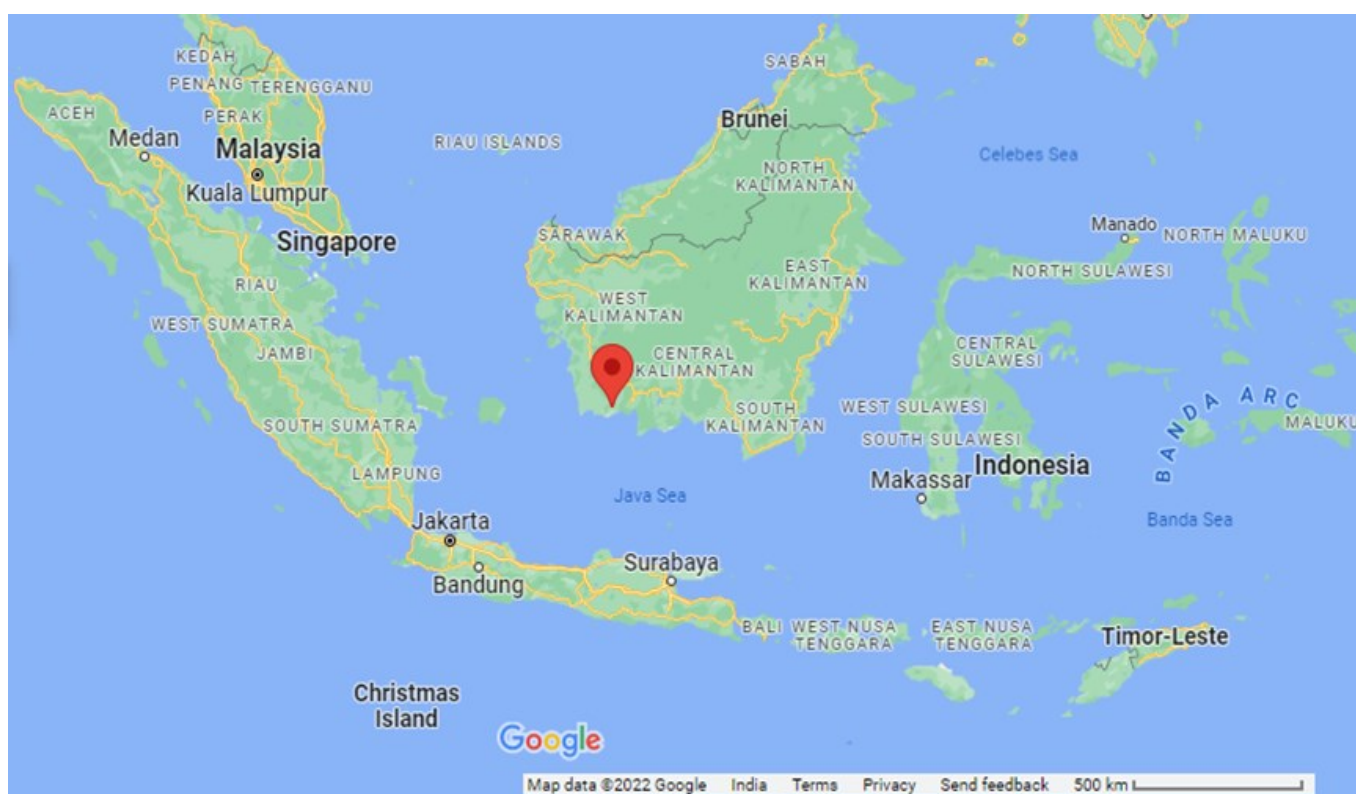


Fig. 1. Map showing the study location.

Data collection used two methods, namely the first exploratory survey with data collection techniques through observation, filling out questionnaires and direct interviews with 'key persons'. These key persons were determined through a *snowball* where the selection of respondents was based on the previous respondent's information with a total of 30 people. The majority of the population is *Dayak* (indigenous people) while other ethnic groups come from *Banjar* (immigrants) with low levels of education. The age range of the respondents was between 20 - 59 years and there were 2 elderly people in this group. The respondents consisted of 26 men and 4 women.

Results and Discussion

There were 62 types of medicinal plants used by the local community based on the results of interviews and the questionnaire surveys. Plant parts such as the roots, stems, seeds, fruit, flowers, leaves, bark and sap were found to be used for various purposes (Table

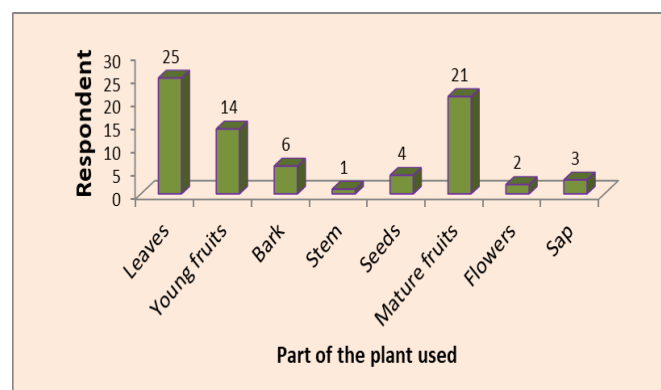


Fig. 2. Parts of medicinal plants used by the local people.

1, Fig. 2) as reported in other studies (7, 8). Among the various plant parts, leaves were used for medicinal purposes widely as noted in some of the previous reports (9, 10).

Present study revealed that there are 62 types of medicinal plants used by the people of Natai Sedawak Village by utilizing the leaves, roots, stems, bark, flowers, fruit and sap. This research still requires species identification information for some of the taxa mentioned in this study and the chemistry of bioactive compounds present in the medicinal plants to obtain more complete and comprehensive information.

Table 1. Types of medicinal plants used by the people of Natai Sedawak Village, Sukamara Regency, Central Kalimantan

No.	Local Name	Botanical Name	Parts used	Benefits / benefits
1	Akar kerantung	<i>Cayratia pedata</i>	root	Cough
2	Akar ketupat	<i>Coptosapelta tomentosa</i>	leaves and stems	Toothache
3	Akar kuning	<i>Archanglisis flava</i>	roots and leaves	Jaundice
4	Akar Darah	<i>Spatholobus littoralis</i>	Root	Blood booster, stomach ache
6	Asam-asam/kandis	<i>Dranconto melondau</i>	Leaf	Earache
7	Bebara	<i>Timonius flavescens</i>	leaves and stems	Energy booster after giving birth
8	Batang langkang	<i>Cinnamomum iners</i>	root	Heart
9	Bekaman	<i>Vitex pinnata</i>	root, leaf	Goiter
10	Benang-benang	<i>Sauropus sp.</i>	root, leaf	vomiting, nausea
11	Bengkuang hutan	<i>Pachyrhizus sp.</i>	leaves and stems	asthma, heartburn
12	Buluh piasak	<i>Luvunga crassifolia</i>	roots and leaves	typhus and kidneys
13	Cengkodok	<i>Melastoma malabathricum</i>	roots and leaves	wound medicine
14	Dara malu	<i>Mimosa pudica</i>	leaves, stems	Carbuncle
15	Daun kepiting	<i>Pyrrhosia piloselloides</i>	leaf	Renal calculi
16	Daun sambung	<i>Gynura procumbens</i>	leaf	The sniffles
17	Empedu tanah	<i>Hemigraphis alternata</i>	roots and leaves	Antidote
18	Gemor	<i>Alseodaphne umbelliflora</i>	Skin	Mosquito repellent
19	Getah musap	<i>Calophyllum soulatri</i>	leather and rubber	Wound
20	Ilalang	<i>Imperata cylindrica</i>	root	Heatiness
21	Jambu-jambuan	<i>Syzygium nigricans</i>	Fruit, skin, stem, and seeds	Thrush, constipation, toothache
22	Jarum-jarum	<i>Vatica resak</i>	leaf	Ambient
23	Karawija	<i>Ardisia copelandii</i>	seeds and roots	stomach ache
24	Katut kudu	<i>Trema cannabina</i>	leaves, roots	scabs, itchy red watery
25	Kayu mesap	<i>Aglaia elliptica</i>	leather, rubber	scabs, itchy red watery
26	Kayu seribu	<i>Clinacanthus nutans</i>	stem	Antidote
27	Kecubung	<i>Datura metel</i>	seeds, flowers, leaves	Tranquilizer
28	Kerindu	<i>Caaladium sp.</i>	leaves and roots	Rheumatism
29	Klahak	<i>Piper betle</i>	roots and leaves	Smallpox
30	Kraya	<i>Loranthus sp.</i>	leaves and roots	Skin cancer
31	Kumis kucing	<i>Orthosiphon stamineus</i>	leaves and roots	Pee pain
32	Kumpai fuluk	<i>Huperzia sp.</i>	roots and leaves	Constipation/can't pee
33	Labu angin	<i>Endospermum sp.</i>	roots and leaves	Sex medicine
34	Mahabai	-	skin and seeds	Skin whitening
35	Melati hutan	<i>Jasminum sp.</i>	Sap and skin	Toothache
36	Nangka belanda	<i>Annona muricata</i>	leaves, skin	Diabetes
37	Pampan	<i>Ficus sp.</i>	roots and leaves	diarrhea and vomiting
38	Patar wali	<i>Tinospora sp.</i>	stem	Malaria
39	Pasak bumi	<i>Eurycoma longifolia</i>	Roots, stems	Stamina booster
40	Penandul urat	<i>Cratoxylon sp.</i>	shoots and roots	Sprain
41	Pinang kalengan	<i>Pinanga veitchii</i>	roots and leaves	Epilepsy
42	Rambang	<i>Mapania enodis</i>	leaf	Earache
43	Remau	<i>Ampelociscus thyrsoflorus</i>	root	Aches medicine
44	Riang	<i>Vitis vinifera</i>	leaves, skin	Sore
45	Rotan	<i>Calamus caesius</i>	stems and leaves	Malaria
46	Sambai	<i>Ficus elastica</i>	leaves, stems	Wing/skin medicine
47	Sampu ratu	<i>Alxia reinwardtii</i>	roots and leaves	Perfume / Fragrance
48	Sampu riang	<i>Psychotria viridiflora</i>	roots and leaves	Dysentery
49	Semelayar	<i>Cucurligo latifolia</i>	roots and leaves	Brain cancer

50	<i>Senda guri</i>	<i>Asplenium nidus</i>	leaves, roots	Swelling Medicine
51	<i>Sengkubak</i>	<i>Culigo latifolia</i>	Leaf	Fever reducer, Flavoring
52	<i>Serai</i>	<i>Cymbopogon citratus</i>	leaves and stems	Fracture
53	<i>Slinsin</i>	<i>Tradescantia</i> sp.	leaves and roots	Snake poison antidote
54	<i>Tabai-tabai</i>	<i>Costus speciosus</i>	roots and leaves	Febrifuge
55	<i>Tapang tambulus</i>	<i>Macaranga gigantea</i>	root, stem	Give birth
56	<i>Tapus merah</i>	<i>Etlingera elatior</i>	fruit, leaf, root	Dysentery
57	<i>Tebaraung</i>	<i>Phragmites</i> sp.	roots and leaves	Elephantiasis
58	<i>Tebu buruk kulit</i>	<i>Saccharum</i> sp.	Roots, flowers	Skin disease
59	<i>Tebu hitam</i>	<i>Saccharum officinarum</i>	root and stem	Nephroblastoma
60	<i>Tebu tengiling</i>	<i>Saccharum</i> sp.	roots and leaves	Swelling, bruising
61	<i>Tujuh tangga</i>	<i>Rourea borneensis</i>	root	Flu
62	<i>Ujung atap</i>	<i>Baekkea frutescens</i>	leaf	Increase stamina, energy

Acknowledgements

Authors thank the local people who participated in the interviews and the questionnaire survey used to collect ethnobotanical information.

Authors contributions

All authors contributed equally.

Compliance with ethical standards

Conflict of interest: Authors do not have any conflict of interests to declare.

Ethical issues: None.

References

- Alves R, Rosa IM. Biodiversity, traditional medicine and public health: where do they meet? *Journal of ethnobiology and ethnomedicine*. 2007 Dec;3(1):1-9. <https://doi.org/10.1186/1746-4269-3-14>
- Anthwal A, Gupta N, Sharma A, Anthwal S, Kim KH. Conserving biodiversity through traditional beliefs in sacred groves in Uttarakhand Himalaya, India. *Resources, Conservation and Recycling*. 2010 Sep 1;54(11):962-71. <https://doi.org/10.1016/j.resconrec.2010.02.003>
- Heywood VH. Ethnopharmacology, food production, nutrition and biodiversity conservation: towards a sustainable future for indigenous peoples. *Journal of ethnopharmacology*. 2011;Sep 1;137(1):1-5. <https://doi.org/10.1016/j.jep.2011.05.027>
- Boedhihartono AK. Can community forests be compatible with biodiversity conservation in Indonesia?. *Land*. 2017 Mar 14;6(1):21. <https://doi.org/10.3390/land6010021>
- Kartika T, Eddy S, Khairani R. Studi Etnobotani Tumbuhan Obat Di Desa Perajen Kecamatan Banyuasin I Kabupaten Banyuasin. *Sainmatika: Jurnal Ilmiah Matematika dan Ilmu Pengetahuan Alam*. 2021 Jun 5;18(1):9-18. <https://doi.org/10.31851/sainmatika.v17i3.5188>
- Bodeker G. *Indigenous Medical Knowledge: The Law and Politics of Protection*: Oxford Intellectual Property Research Centre Seminar in St. Peter's College, 25th January 2000; Oxford.
- Chandra R, Suwarno E, Suhesti E. Etnobotani Masyarakat Desa Tanjung Belit Kabupaten Kampar Provinsi Riau. *Jurnal Karya Ilmiah Multidisiplin (JURKIM)*. 2022 Jan 26;2(1):42-48.
- Yansip SM, Tambaru E, Salam MA. Jenis-Jenis Tumbuhan Berkhasiat Obat Tradisional Di Masyarakat Desa Yanim Dan Braso Distrik Kemtuk Gresi Kabupaten Jayapura. *BIOMA: Jurnal Biologi Makassar*. 2017 Jul 5;2(2):1-1. <https://doi.org/10.20956/bioma.v2i2.2027>
- Fransiska Z, Arianto W, Anwar G. Kajian Etnobotani Tumbuhan Obat Masyarakat Desa Tamiai Kecamatan Batang Merangin Kabupaten Kerinci Provinsi Jambi. *Journal of Global Forest and Environmental Science*. 2022 Jan 27;2(1):39-50.
- Kristiana L, Paramita A, Maryani H, Andarwati P. Eksplorasi Tumbuhan Obat Indonesia untuk Kebugaran: Analisis Data Riset Tumbuhan Obat dan Jamu Tahun 2012; 2015; dan 2017; *Jurnal Kefarmasian Indonesia*. 2022 Feb 28:79-89. <https://doi.org/10.22435/jki.v0i0.5209>

§§§