



Ethnobotany of spice plants among the community of emparu baru village, dedai district, sintang regency



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ABSTRACT

The people of Emparu Baru Village still maintain local wisdom, including the traditional use of herbs and spices as cooking spices. However, this local wisdom is still passed down orally and has not been documented in writing. This study aims to identify and document the diversity of spice plants used by the Dayak Desa community in Emparu Baru Village, Dedai District, Sintang Regency. The research employed a qualitative descriptive method with an ethnobotanical approach. The results show that the Dayak Desa people possess extensive knowledge of various types of local spice plants, including rhizomes, leaves, tubers, fruits, seeds, and others. This traditional knowledge not only plays an important role in maintaining the resilience of local species but also holds great potential to be developed as a valuable source of information for efforts to conserve plant biodiversity. Based on the ethnobotanical study of spice plants, it can be concluded that there are 42 plant species from 25 families used as spices for cooking. These spices are derived from various plant parts, including fruits, stems, seeds, flowers, leaves, young leaves, bark, rhizomes, tubers, bulbs, and shoots.

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INTRODUCTION

Indonesia remains one of the world's leading producers and exporters of spices. On average, Indonesian spices accounted for 21.06% of the total global spice market (Yana, 2018). This indicates how actively the Indonesian population utilizes spice plants. Spices are plant parts derived from stems, leaves, bark, tubers, rhizomes, roots, seeds, flowers, or other plant organs (Hakim, 2015a), which are aromatic in nature and primarily used in food as flavoring agents.

Spice plants have long been used as kitchen seasonings, flavor enhancers, fragrances, and food preservatives, although traditionally in limited use (Robi *et al*, 2019). These spices, derived from various parts of plants, contain phytochemical compounds produced through plant metabolic



processes. According to Hakim et al. (2015b), the Kopen Dukuh community still utilizes spice plants for various purposes, ranging from food flavoring to maintaining stamina and health. Spices contain phytochemical compounds such as phytosterols, saponins, polyphenols, glucosinolates, phytoestrogens, curcumin, sulfides, phytic acid, tannins, and essential oils. These phytochemical compounds not only enhance flavor but also provide medicinal effects (Ningsih, 2021).

According to Demayati & Soenarto (2018), spices are aromatic plants added to food as flavor enhancers and appetite stimulants. Spices are usually used in fresh or wet form. Examples include lime, tomato, chili, and others. Spices contain antimicrobial compounds that can naturally preserve food (Mulyani et al., 2019).

Research conducted by Yanti et al. (2023) found that 56 species from 31 families of spice plants were used by the people of Sebuduh Village, Kembayan District, Sanggau Regency. One example of the use of spices in daily life can be found among the people of Emparu Baru Village, Dedai District, Sintang Regency. They have a long-standing tradition of utilizing plants as spices and cooking seasonings, a cultural practice that has been preserved to this day. Given the importance of plants used as spices and seasonings, the people of Emparu Baru Village continue to care for and maintain the plants in their surroundings — a reflection of their local wisdom. Local wisdom encompasses all forms of knowledge, beliefs, understanding, insights, customs, and ethical values that guide human behavior within an ecological community (Supiandi et al., 2019). This local wisdom is reflected in the habits of the people of Emparu Baru Village, Dedai District, Sintang Regency, who consistently protect, preserve, and utilize local plants to meet their daily food needs. To date, no research has been conducted among the people of Emparu Baru Village, Dedai District, Sintang Regency, regarding the use of plants as spices and cooking seasonings. The use of spices thus represents a tangible form of local wisdom practiced by the community of Emparu Baru Village, Dedai District, Sintang Regency.

Knowledge about spice plants that can be used as cooking ingredients is poorly documented, as people living in rural areas generally rely more on oral traditions than written records to preserve such knowledge. Consequently, younger generations today are becoming less familiar with existing spice plants. The community's knowledge of using plants as spices is derived from local wisdom passed down orally from parents and ancestors through generations, forming a cultural tradition that continues to be maintained as a form of local wisdom and as part of ethnobotanical studies. The utilization of spice plants has traditionally been transmitted through oral instruction and direct practice (Hakim, 2015c). Ethnobotanical studies also play an important role in uncovering local knowledge and preserving natural plant resources (Marin et al., 2015). It is hoped that through ethnobotanical research, the knowledge of the Emparu Baru village community about spice plants and their traditional uses can be well documented, so that this local wisdom can be passed on, studied, and preserved by future generations to become useful knowledge for the wider community.

Based on these issues, it has become increasingly important to research the ethnobotany of spice and seasoning plants among the community of Emparu Baru Village, Dedai District, Sintang Regency. Furthermore, this study is necessary to document the diversity of plant species commonly used by the people of Emparu Baru Village, Dedai District, Sintang Regency, as spices and cooking seasonings, so that this local knowledge can be preserved and not lost over time.

Efforts that can be made so that plants that are used as spices and spices for cooking do not become extinct, it is very necessary to provide knowledge and education to the younger generation and to the community. Education is provided so that the public's knowledge of herbs and cooking spices is increasing, one of which is by training researchers and compiling the results into reference books that can be studied and used in daily life.

The purpose of this ethnobotanical research is to identify the types of spice plants, the parts used as cooking spices, and how to use spices and cooking spices. Based on the background that has been explained, the researcher is interested in exploring more about the types of spices used by the people of Emparu Baru Village as ingredients for cooking spices, which is outlined in the title "Ethnobotany of Spice Plants in the Community of Emparu Baru Village, Dedai District, Sintang Regency.

RESEARCH METHODS

Research Design

The method used in this study is descriptive, and the type of research used is qualitative. Qualitative descriptive research is research conducted by survey and interview techniques, as evidenced by facts in the field related to plants used by the people of Emparu Baru Village, Dedai District, Sintang Regency, for cooking spices. The survey method is used to obtain data from a certain place that is natural (not made by the author), but the researcher conducts treatment in data collection, for example, by distributing questionnaires, tests, structured interviews, and so on (treatment is not like in experiments) (Arifin, Z., 2020).

Population and Samples

Sampling and data collection techniques use the snowball sampling method. This is because sampling is based on information from key informants, from which further informants are obtained according to the level of knowledge about the spice plants used by the people of Emparu Baru village. Snowball sampling is a sampling method obtained by rolling from one respondent to another. Respondents are people who, in their daily lives, use plants as food ingredients and people who know plants, spices, and cooking spices. The informants in this study consisted of 7 people who were divided into key informants, main informants, and additional informants who used plants in their daily lives, and people who had the criteria of knowledge about herbs and cooking spices. This informant functions to provide information for researchers related to herbs and cooking spices. The key informant is the village secretary, who gives advice on the next informant based on criteria that have been determined by the researcher.

Instruments

Data collection instruments are the means that researchers can use to collect data. According to Raflin (2019) states that "research instruments are tools used to measure observed natural and social phenomena to obtain the data needed. Instruments as a tool to assist in using data collection methods are means that can be realized in objects, such as questionnaires, test kits, interview guidelines, observation guidelines, scales, and so on. The instruments used in this research were a voice recorder as a tool for recording interviews, a camera to document the research process, writing tools, and a structured interview sheet with question indicators, namely (1) sources of knowledge possessed, (2) types of plants (local names), (3) parts used, (4) methods of use, and (5) methods of cultivating plants.

Procedures

This research was carried out from March 27 – April 06, 2025. The implementation of the research began with conducting interviews with resource persons for three days and field observations for 2 days. The first interview was conducted with the village secretary to obtain information about the profile of the village and the community of Emparu Baru village. The second interview was conducted with the traditional leader, who is the traditional leader in the community. Furthermore, the last interview was conducted with 5 community members with the

following categories: 2 people as key informants and 3 people as additional informants who knew and utilized spice plants.

Data Analysis

The data analysis in this study uses qualitative descriptive analysis techniques. This analysis is a content analysis based on respondents' knowledge of spice plants. Data was obtained from interviews with the people of Emparu Baru Village, Dedai District, Sintang Regency, to find out the types of spice plants, the parts used, how to use plants used as cooking spices, and products that can be produced from spices. The formula for finding the percentage of the family percentage of plant parts used, the method of utilization, and the type of habitat is as follows:

1. Percentage of families

Spice plants are grouped based on family, and then the percentage is calculated using the formula:

$$\frac{\Sigma \text{Specific family species}}{\Sigma \text{Species of all families}} \times 100\% \quad (\text{Qasrin et al, 2020})$$

2. Percentage of parts utilized

The percentage of the portion of spice plants used is calculated using the formula:

$$\frac{\Sigma \text{Specific ways of use}}{\Sigma \text{Total Plants}} \times 100\% \quad (\text{Mulyani, 2020})$$

3. Percentage of Utilization

The percentage of the way spice plants are used is calculated using the formula:

$$\frac{\Sigma \text{How to use}}{\Sigma \text{Total Usage}} \times 100\% \quad (\text{Qasrin et al, 2020})$$

4. Percentage of plant habitat

The percentage of spice plant habitat is related to where spice plants are found. The percentage of spice plant habitat is calculated using the formula:

$$\frac{\Sigma \text{Specific habitats}}{\Sigma \text{Whole species}} \times 100\% \quad (\text{Qasrin et al, 2020})$$

RESULTS

The results of research interviews with the Dayak tribe of Desa, Emparu Baru Village, Dedai District, Sintang Regency, there are 42 species of plant types from 25 families that can be used as spices that are traditionally processed into a cooking spice. However, 10 spice plants are not plants in Emparu Baru Village but can be found in the market, namely onions, coriander, cumin, candlenuts, star anise, cinnamon, onions, garlic, cloves, and cardamom. The data on spice plants found can be seen in Table I.

The most diverse family found is the Zingiberaceae family, which consists of 9 types of plants with a percentage of 21.43%. Then the Poaceae family consists of 3 types of plants that are used for each family with a percentage of 7.14%, the Amaryllidaceae, Apiaceae, Lauraceae, Liliaceae, Myrtaceae, Rutaceae and Solanaceae families consist of 2 types of plants that are used for each other family with a percentage of 4.76%, and the remaining 1 type of plant for each other

family with a percentage of 2.38%. The parts of plants used based on the interviews can be seen in Table 2.

Table 1. Types of Spice Plants

No	Family	Local Name	Scientific Name
1	Amaryllidaceae	Bawa Bumbai	<i>Allium cepa</i> L.
		Daun Bawa	<i>Allium fistulosum</i> L.
2	Apiaceae	Ketumar	<i>Coriandrum sativum</i> L.
		Jintan	<i>Carum carvi</i> L.
3	Arecaceae	Nyir	<i>Cocos nucifera</i> L.
4	Bonnetiaceae	Jingir	<i>Ploiarium alternifolium</i> (Vahl.)
5	Cactaceae	Kacam	<i>Pereskia aculeate</i> Mill.
6	Clusiaceae	Asam Kaneh	<i>Garcinia xanthochymus</i> Hook. f.
7	Euphorbiaceae	Kemiri	<i>Aleurites moluccana</i> (L.) Willd.
8	Fabaceae	Asam Jawo	<i>Tamarindus indica</i> L.
9	Lamiaceae	Kemangi	<i>Ocimum basilicum</i> L.
10	Lauraceae	Bungo Lawa	<i>Cinnamomum cullilawan</i> Bl.
		Kayu Maneh	<i>Cinnamomum burmannii</i> Ness.
11	Liliaceae	Bawa Mirah	<i>Allium cepa</i> Var. <i>Aggregatum</i> L.
		Bawa Puteh	<i>Allium sativum</i> L.
12	Malvaceae	Rian	<i>Durio zibethenius</i> Murray.
13	Menispermaceae	Sengkubak	<i>Pycnarrhena cauliflora</i> (Miers.)
14	Myrtaceae	Daun Bunggang	<i>Syzygium polyanthum</i> (Wight.) Walp.
		Cengkeh	<i>Syzygium aromaticum</i> (L.) Merr.
15	Oxalidaceae	Blimea Wuluh	<i>Averrhoa bilimbi</i> L.
16	Pandanaceae	Pandan	<i>Pandanus amaryllifolius</i> Roxb.
17	Piperaceae	Sahang	<i>Piper nigrum</i> L.
18	Poaceae	Seledri	<i>Apium graveolens</i> L.
		Rampang Beram	<i>Oryza sativa</i> L. Var. <i>Glutinosa</i>
		Serai	<i>Cymbopogon citratus</i> (DC) Stapf.
19	Polygonaceae	Kesum	<i>Persicaria odorata</i> Huds.
20	Rubiaceae	Bangkal	<i>Nauclea orientalis</i> (L.) L.
21	Rutaceae	Limao Sambal	<i>Citrus amblycarpa</i> (Hassk.) Ochse
		Limao Purut	<i>Citrus hystrix</i> DC.
22	Solanaceae	Tumat	<i>Solanum iycopersicum</i> L.
		Rangki	<i>Capsicum frutescens</i> L.
23	Verbenaceae	Berbuas	<i>Premna serratifolia</i> L.
24	Vitaceae	Riang Akar	<i>Cissus verticillata</i> L.
25	Zingiberaceae	Cekur	<i>Kaempferia galangal</i> L.
		Kecalak	<i>Etingera elatior</i> Jack.
		Lengkuach	<i>Alpinia galangal</i> (L.) Sw.
		Liak Bumbu	<i>Zingiber officinale</i> Rosc.
		Liak Mirah	<i>Zingiber officinale</i> Var. <i>Rubrum</i>
		Liak Puteh	<i>Zingiber officinale</i> Roscae.
		Kunyit	<i>Curcuma longa</i> L.
		Kapulaga	<i>Amomum compactum</i> Roxb.
	Tepus	<i>Etingera comosa</i>	

Table 2. Parts of Plants Utilized

No	Local Name	Scientific Name	Parts Used
1	Bawa Bumbai	<i>Allium cepa</i> L.	Layer Tubers
	Daun Bawa	<i>Allium fistulosum</i> L.	leaf
2	Ketumar	<i>Coriandrum sativum</i> L.	Seed
	Jintan	<i>Carum carvi</i> L.	Seed
3	Nyiur	<i>Cocos nucifera</i> L.	Fruit
4	Jingir	<i>Ploiarium alternifolium</i> (Vahl.)	Young Leaves
5	Kacam	<i>Pereskia aculeata</i> Mill.	leaf
6	Asam Kaneh	<i>Garcinia xanthochymus</i> Hook. f.	Fruit
7	Kemiri	<i>Aleurites moluccana</i> (L.) Willd.	Seed
8	Asam Jawo	<i>Tamarindus indica</i> L.	Fruit
9	Kemangi	<i>Ocimum basilicum</i> L.	leaf
10	Bungo Lawa	<i>Cinnamomum cullilawan</i> Bl.	Flower
	Kayu Maneh	<i>Cinnamomum burmannii</i> Ness.	Bark
11	Bawa Mirah	<i>Allium cepa</i> Var. <i>Aggregatum</i> L.	Layer Tubers
	Bawa Puteh	<i>Allium sativum</i> L.	Layer Tubers
12	Rian	<i>Durio zibethinus</i> Murray.	Fruit
13	Sengkubak	<i>Pycnarrhena cauliflora</i> (Miers.)	leaf
14	Daun Bungkah	<i>Syzygium polyanthum</i> (Wight.) Walp.	leaf
	Cengkeh	<i>Syzygium aromaticum</i> (L.) Merr.	Flower
15	Blimea Wuluh	<i>Averrhoa bilimbi</i> L.	Fruit
16	Pandan Wangi	<i>Pandanus amaryllifolius</i> Roxb.	leaf
17	Sahang	<i>Piper nigrum</i> L.	Fruit
18	Seledri	<i>Apium graveolens</i> L.	Leaf and stem
	Rampang Beram	<i>Oryza sativa</i> L. Var. <i>Glutinosa</i>	Seed
	Serai	<i>Cymbopogon citratus</i> (DC) Stapf.	stem
19	Kesum	<i>Persicaria odorata</i> Huds.	leaf
20	Bangkal	<i>Nauclea orientalis</i> (L.) L.	leaf
21	Limau Sambal	<i>Citrus amblycarpa</i> (Hassk.) Ochse	fruit
	Limao Purut	<i>Citrus hystrix</i> DC.	Leaf and fruit
22	Tumat	<i>Solanum lycopersicum</i> L.	Fruit
	Rangki	<i>Capsicum frutescens</i> L.	Fruit
23	Berbuas	<i>Premna serratifolia</i> L.	leaf
24	Riang Akar	<i>Cissus verticillata</i> L.	leaf
25	Cekur	<i>Kaempferia galangal</i> L.	rhizomes
	Kecalak	<i>Etingera elatior</i> Jack.	grass, fruit, and Flower
	Lengkuah	<i>Alpinia galangal</i> (L.) Sw.	rhizomes and grass
	Liak Bumbu	<i>Zingiber officinale</i> Rosc.	rhizomes
	Liak Mirah	<i>Zingiber officinale</i> Var. <i>Rubrum</i>	rhizomes
	Liak Puteh	<i>Zingiber officinale</i> Roscoe.	rhizomes
	Kunyit	<i>Curcuma longa</i> L.	rhizomes, leaf, and flower
	Kapulaga	<i>Amomum compactum</i> Roxb.	fruit
	Tepus	<i>Etingera comosa</i>	grass

Based on Table 3, the most spice plants were found in gardens with 18 species, with a percentage of 82.86%, the second most abundant habitat was forests with 13 species, with a

percentage of 30.95% and finally the yard of houses with 11 species, with a percentage of 26.19%. Furthermore, the results of the interviews related to the use of spice plants can be seen in Table 4.

Table 3. Spice Plant Habitats

No	Local Name	Scientific Name	Habitat
1	Bawa Bumbai	<i>Allium cepa</i> L.	Home Yard
2	Daun Bawa	<i>Allium fistulosum</i> L.	Home Yard
3	Ketumar	<i>Coriandrum sativum</i> L.	Garden
4	Jintan	<i>Carum carvi</i> L.	Garden
5	Nyiur	<i>Cocos nucifera</i> L.	Garden
6	Jingir	<i>Ploiarium alternifolium</i> (Vahl.)	Forest
7	Kacam	<i>Pereskia aculeate</i> Mill.	Forest
8	Asam Kaneh	<i>Garcinia xanthochymus</i> Hook. f.	Garden
9	Kemiri	<i>Aleurites moluccana</i> (L.) Willd.	Garden
10	Asam Jawo	<i>Tamarindus indica</i> L.	Garden
11	Kemangi	<i>Ocimum basilicum</i> L.	Home Yard
12	Bungo Lawa	<i>Cinnamomum cullilawan</i> Bl.	Garden
13	Kayu Maneh	<i>Cinnamomum burmannii</i> Ness.	Forest
14	Bawa Mirah	<i>Allium cepa</i> Var. <i>Aggregatum</i> L.	Home Yard
15	Bawa Puteh	<i>Allium sativum</i> L.	Home Yard
16	Rian	<i>Durio zibethinus</i> Murray.	Garden
17	Sengkubak	<i>Pycnarrhena cauliflora</i> (Miers.)	Forest
18	Daun Bunggang	<i>Syzygium polyanthum</i> (Wight.) Walp.	Forest
19	Cengkeh	<i>Syzygium aromaticum</i> (L.) Merr.	Garden
20	Blimea Wuluh	<i>Averrhoa bilimbi</i> L.	Garden
21	Pandan Wangi	<i>Pandanus amaryllifolius</i> Roxb.	Forest
22	Sahang	<i>Piper nigrum</i> L.	Garden
23	Seledri	<i>Apium graveolens</i> L.	Home Yard
24	Rampang Beram	<i>Oryza sativa</i> L. Var. <i>Glutinosa</i>	Garden
25	Serai	<i>Cymbopogon citratus</i> (DC) Stapf.	Garden
26	Kesum	<i>Persicaria odorata</i> Huds.	Forest
27	Bangkal	<i>Nauclea orientalis</i> (L.) L.	Forest
28	Limao Sambal	<i>Citrus amblycarpa</i> (Hassk.) Ochs	Garden
29	Limao Purut	<i>Citrus hystrix</i> DC.	Garden
30	Tumat	<i>Solanum lycopersicum</i> L.	Home Yard
31	Rangki	<i>Capsicum frutescens</i> L.	Garden
32	Berbuas	<i>Premna serratifolia</i> L.	Forest
33	Riang	<i>Cissus verticillata</i> L.	Forest
34	Cekur	<i>Kaempferia galangal</i> L.	Garden
35	Kecalak	<i>Etingera elatior</i> Jack.	Forest
36	Lengkuah	<i>Alpinia galangal</i> (L.) Sw.	Forest
37	Liak Bumbu	<i>Zingiber officinale</i> Rosc.	Home Yard
38	Liak Mirah	<i>Zingiber officinale</i> Var. <i>Rubrum</i>	Home Yard
39	Liak Puteh	<i>Zingiber officinale</i> Roscoe.	Home Yard
40	Kunyit	<i>Curcuma longa</i> L.	Home Yard
41	Kapulaga	<i>Amomum compactum</i> Roxb.	Garden
42	Tepus	<i>Etingera comosa</i>	Forest

Table 4. How to Utilize Spice Plants

No	Local Name	Scientific Name	How to Use
1	Bawa Bumbai	<i>Allium cepa</i> L.	Sliced
2	Daun Bawa	<i>Allium fistulosum</i> L.	Sliced
3	Ketumar	<i>Coriandrum sativum</i> L.	Mashed
4	Jintan	<i>Carum carvi</i> L.	Dried
5	Nyiur	<i>Cocos nucifera</i> L.	Squeezed
6	Jingir	<i>Ploiarium alternifolium</i> (Vahl.)	Cooked directly
7	Kacam	<i>Pereskia aculeate</i> Mill.	Sliced
8	Asam Kaneh	<i>Garcinia xanthochymus</i> Hook. f.	Cooked directly and Dried
9	Kemiri	<i>Aleurites moluccana</i> (L.) Willd.	Mashed
10	Asam Jawo	<i>Tamarindus indica</i> L.	Cooked directly and Dried
11	Kemangi	<i>Ocimum basilicum</i> L.	Cooked directly
12	Bungo Lawa	<i>Cinnamomum cullilawan</i> Bl.	Dried
13	Kayu Maneh	<i>Cinnamomum burmannii</i> Ness.	Dried
14	Bawa Mirah	<i>Allium cepa</i> Var. <i>Aggregatum</i> L.	Sliced and Mashed
15	Bawa Puteh	<i>Allium sativum</i> L.	Sliced, Mashed and crushed
16	Rian	<i>Durio zibethenius</i> Murray.	Fermented
17	Sengkubak	<i>Pycnarrhena cauliflora</i> (Miers.)	Sliced
18	Daun Bungkang	<i>Syzygium polyanthum</i> (Wight.) Walp.	Cooked directly and Dried
19	Cengkeh	<i>Syzygium aromaticum</i> (L.) Merr.	Dried
20	Blimea Wuluh	<i>Averrhoa bilimbi</i> L.	Mashed
21	Pandan Wangi	<i>Pandanus amaryllifolius</i> Roxb.	Sliced
22	Sahang	<i>Piper ningrum</i> L.	Dried
23	Seledri	<i>Apium graveolens</i> L.	Sliced
24	Rampang Beram	<i>Oryza sativa</i> L. Var. <i>Glutinosa</i>	Fermented
25	Serai	<i>Cymbopogon citratus</i> (DC) Stapf.	Bruised
26	Kesum	<i>Persicaria odorata</i> Huds.	Sliced
27	Bangkal	<i>Nauclea orientalis</i> (L.) L.	Cooked Directly
28	Limao Sambal	<i>Citrus amblycarpa</i> (Hassk.) Ochse	Squeezed
29	Limao Purut	<i>Citrus hystrix</i> DC.	Sliced and Diperas
30	Tumat	<i>Solanum lycopersicum</i> L.	Sliced and Mashed
31	Rangki	<i>Capsicum frutescens</i> L.	Sliced and Mashed
32	Berbuas	<i>Premna serratifolia</i> L.	Cooked Directly
33	Riang	<i>Cissus verticillata</i> L.	Cooked Directly
34	Cekur	<i>Kaempferia galangal</i> L.	Mashed
35	Kecalak	<i>Etingera elatior</i> Jack.	Sliced
36	Lengkuaeh	<i>Alpinia galangal</i> (L.) Sw.	Sliced
37	Liak Bumbu	<i>Zingiber officinale</i> Rosc.	Mashed and Bruised
38	Liak Mirah	<i>Zingiber officinale</i> Var. <i>Rubrum</i>	Mashed and Bruised
39	Liak Puteh	<i>Zingiber officinale</i> Roscae.	Mashed and Bruised
40	Kunyit	<i>Curcuma longa</i> L.	Mashed dan Sliced
41	Kapulaga	<i>Amomum compactum</i> Roxb.	Cooked Directly
42	Tepus	<i>Etingera comosa</i>	Sliced

Based on the results of the interview, the most used spice plants were sliced as many as 16 species with a percentage of 30.77%, mashed as many as 10 species with a percentage of 19.23%, cooked directly as many as 9 species with a percentage of 17.31%, dried as many as 8 species with a percentage of 15.38%, decayed as many as 4 species with a percentage of 7.69%, squeezed as many as 3 species with a percentage of 5.77% and the least was fermented as many as 2 species with was 3.85%.

DISCUSSION

The results of the study showed that there were 42 species found and there were 25 families. The most widely found family is Zingiberaceae. The Zingiberaceae family (ginger-ginger tribe) is a group of plants that are most widely used as spices and spices in cooking because they contain bioactive compounds such as essential oils, gingerol, shogaol, and curcumin that give a strong aroma, distinctive taste, and antimicrobial and anti-inflammatory benefits. This plant is easy to grow in tropical climates such as Indonesia so that its availability is abundant and easy to cultivate by the community. In addition to being used as a spice, plants from this family are also used in traditional medicine and traditional ceremonies, making them multifunctional plants in daily life. Research by Prastiwi et al. (2019) shows that the more often a plant is used and the more benefits it has, the higher its use value for society. The Zingiberaceae plant consists of 9 plants, namely *Kaempferia galangal* L. (kencur), *Etingera elatior* Jack. (kecombrang), *Alpinia galangal* (L.) Sw. (galangal), *Zingiber officinale* Rosc. (spiced ginger), *Zingiber officinale* Var. *Rubrum* (red ginger), *Zingiber officinale* Roscoe. (white ginger), *Curcuma longa* L. (turmeric), *Amomum compactum* Roxb. (cardamom) and *Etingera comosa* (tepus). These species are spice plants that produce cooking spices. So that people prefer to maintain and cultivate these plants, but among these plants there are those that are very difficult to be able to cultivate such as *Amomum compactum* Roxb. (Laughter). The Zingiberaceae family is a spice-producing plant that has a character that is easy to grow in various environments so that it is not difficult to be cultivated by the community.

The Poaceae family (grass-grass tribe) ranks second as the most widely used plant group as a culinary spice. The most commonly used type is lemongrass (*Cymbopogon citratus*). This plant has a distinctive pungent aroma and functions as a flavor enhancer and fishy odor remover in cooking. Some types of this family are also utilized in traditional herbs and herbal medicine. This plant grows well in tropical environments and is easy to find around community settlements. Its use is considered practical because it does not require complicated processing. Research by Suwardi et al. (2020) shows that types of plants that are easy to find and often found are more widely used by the community. Studies by Oliveira et al. (2021) also show that the accessibility and availability of a type of plant greatly affect the frequency of its use in daily life. This is because most species of the Poaceae family are food sources of vitamins or main foods such as celery (*Apium graveolens* L.), Dregas Tuak (*Oryza sativa* L. Var. *Glutinosa*), lemongrass (*Cymbopogon citratus* (DC) Stapf) used in cooking seasonings.

The most widely used part of the plant is the leaf part. Leaves are most widely used for several reasons, namely they are easy to take without having to damage the plant, the leaves also grow continuously almost all year round. The aroma is fragrant and the taste is strong, the leaves also contain natural substances such as essential oils, flavonoids, and tannins which are great for cooking and can also be used as a traditional medicine. Many people use leaves for seasonings, food wrappers, and herbal ingredients. The texture is soft and easy to process. If cooked, the aroma comes out quickly and then is more practical than other parts such as roots or stems. People prefer it because it is not complicated and the results of the cooking are more delicious. According to Ege et al. (2021), people in Pakak village use leaves for various traditional medicinal and spice purposes because leaves are abundant in the forest, easy to obtain, and harvesting leaves

will not kill the plant. Research by Manangka et al. (2017) found that the part of the plant most frequently used was the leaves with a percentage of 36.84%.

Leaves are an important part of plants that are generally found in large numbers in each individual plant. Leaves have a vital role in supporting plant life, especially as a place where photosynthesis, respiration, and transpiration processes take place. The presence of large numbers of leaves reflects their essential function in absorbing sunlight and supporting the growth and development of the plant as a whole. Yonathan et al., (2016) stated that leaves are an important part of plants and in general each plant has a large number of leaves. This tool is only found on the stem and never on any other part of the plant body. Leaves, in addition to being used as a spice for cooking, are also used as vegetables every day and there are also some as used as a paste by the community. Leaves are widely used by the community because leaves are more available when compared to other parts so they are easier to get. Alafiah (2022) stated that although the leaf is the place where the photosynthesis process takes place, the use of leaves does not affect the growth of a plant because the leaves have high regeneration to sprout again. Based on the interviews conducted, there are several species of plants that are used for more than one organ (part), for example, turmeric (*Curcuma longa* L.) the parts that can be used are rhizomes, leaves and flowers, then kaffir lime (*Citrus hystrix* DC.) the parts that are used are leaves and fruits and there are many other plants that cannot be consumed only one part. If a plant species has several parts that can be used, it can guarantee that the species survives and remains in good condition so that its existence will be sustainable.

The next most abundant part of the plant is the fruit part. Fruit-producing plants mostly come from forests and yards. There are fruits that can be used as a seasoning for cooking, namely coconut (*Cocos nucifera* L.), kandis acid (*Garcinia xanthochymus* Hook. f.), tamarind (*Tamarindus indica* L.), durian (*Durio zibethinus* Murray.), star fruit (*Averrhoa bilimbi* L.), pepper (*Piper nigrum* L.), chili sauce (*Citrus amblycarpa* (Hassk.) Ochse), kaffir lime (*Citrus hystrix* DC.), tomatoes (*Solanum lycopersicum* L.) and chili peppers (*Capsicum frutescens* L.). Fruit is a part that is often used because the spice plants in the Dayak Village community in Emparu Baru Village produce fruits that produce cooking spices and have a fresh and sour taste and are healthy. Ifandi et al., (2021) stated that people use many types of fruits because they are a source of sugar, carbohydrates, vitamins and minerals. The fruit also contains a lot of water, so it can help relieve thirst and hunger when people do activities.

The first most abundant spice plant habitat is found in community-owned garden areas. This is because gardens are cultivated land that is specifically used to grow various types of spice plants. The garden has a larger land area than the yard of the house, so it is able to accommodate more types and number of plants. Spice plants in the garden are grown in an orderly pattern and maintained sustainably to meet the needs of the kitchen daily as well as for sale. The Dayak Village community in Emparu Baru Village also uses their gardens as the main place to grow various types of spices used in their traditional cuisine. This is done because the garden provides more space to grow in large numbers as well as allows plants to grow optimally with more focused care. According to Raunsay et al, (2022), gardens are the right choice in the development of spice crops because they do not require a long trip like to the forest, but have a larger production capacity than a home yard.

The second most spice plant habitat is found in community-owned forest areas. This is because in the forest there is still a lot of biodiversity, one of which is spice plants and forests are also the main habitat for all kinds of plants, both as food, medicine, spices and wood for buildings that grow naturally and become a place for people to meet the availability of food sources. This is supported by the opinion of Sholichah & Alfidhdhoh (2020) who stated that various types of spice plants are abundant in forests because forests are the main habitat of all types of plants that

grow naturally. The least plant habitat is the yard of the house. The Dayak Village community in Emparu Baru Village also uses their yard as a place to grow plants, both cultivated and wild plants. In addition to taking advantage of the empty yard, this is also done to make it easier for people when they want to use plants to directly take them in their yard without having to go to a distant place so that they can save time and energy for other work. Utilization in the yard of the house is suitable for development without having to travel far to plantation land with a larger area to develop vegetable crops, although the public's interest in planting plants in the yard has begun to decrease (Raunsay et al., 2022). The diversity of habitats shows that the distribution of plants that can be used as spices has great potential. Although, the existence of spice plants is still widely found, it is feared that it will decrease due to activities that damage the living place or plant habitat.

Plants used as cooking seasonings in the Village Dayak Tribe are generally processed in a variety of ways, namely sliced, mashed, cooked directly, dried, bruised, squeezed, and fermented. In the Dayak Village community in Emparu Baru Village, spice plants that are used by many plants can be sliced. Sliced spice plants are generally done on plants that are most used for their fruits and leaves.

The next way to use it is by pureeing. People in rural areas process many spices that are used as cooking seasonings by mashing them either by kneading or blending. Refinement is considered to be able to bring out the aroma and taste of spices more optimally. Refined spices are able to infuse more perfectly into the dish. The resulting taste becomes more palatable and distinctive. Refinement is also believed to be part of local wisdom that is passed down from generation to generation. People believe that the taste of traditional cuisine will not be the same if the spices are not processed in this way. In the local belief of Dayak Desa, cooking is not just a daily activity. This activity is a form of respect for nature and the food that has been provided. The results of the interview stated that the mashed cooking spices maximized the aroma and taste of the spices. The refining process helps to release the essential oils and other aromatic compounds contained in the spices, making the taste and aroma of the dish stronger. In addition, fine spices blend more easily with other cooking ingredients and give a softer texture to the dish.

The most rare way to use it is fermented, which is only two species. These species are durian (*Durio zibethinus* Murray.) and dregs (*Oryza sativa* L. Var. *Glutinosa*) is the part that is fermented in the fruit part. The time to ferment is very long, it can reach approximately one month. The Village Dayak Tribe people process spice plants in various ways, and are not much different from village people in general. According to Pandapotan (2018), knowledge about the use of local plants is the nation's cultural heritage based on knowledge and experience that has been passed down from generation to generation.

CONCLUSION

Based on the results of research and development of the ethnobotany of spice plants in the people of Emparu Baru Village, Dedai District, Sintang Regency, it is known that there are 42 species and 25 families of spice plants that are usually used by the people of Emparu Baru Village as cooking seasonings. Spice plants from 25 families, the most commonly used family is the Zingiberaceae family as many as 9 species, a percentage of 21.43%. The Zingiberaceae family is a tribe of ginger by uses rhizomes as a spice for cooking. The parts of plants that are used as spices for cooking are stems, seeds, fruits, flowers, leaves, young leaves, bark, rhizomes, tubers, layer tubers, and umbut. The most commonly used part is leaves from as many as 13 species, with a percentage of 26.53%. The way to use spices that are used as cooking seasonings is mashed, sliced, dried, cooked directly, bruised, squeezed, and fermented. The most widely used part is sliced from as many as 16 species, with a percentage of 30.77%. The results of ethnobotanical research on spice plants in the Emparu Baru village community have important implications in various fields.

From a socio-cultural perspective, this research helps preserve traditional community knowledge and strengthens local cultural identity. Ecologically, these findings support biodiversity conservation efforts by identifying valuable and vulnerable spice species. Furthermore, they impact education and further research, as they can serve as a source of scientific data for curriculum development and the basis for more in-depth studies, such as phytochemistry or plant breeding. Finally, from an economic perspective, information on the community's use of spices opens up opportunities for local product development, village economic empowerment, and spice-based ecotourism.

REFERENCES

- Alafiah, T. (2022). Etnobotani tumbuhan obat oleh masyarakat di desa sukulilo kecamatan sukulilo kabupaten pati sebagai sumber belajar biologi sma berbentuk katalog. *Skripsi*. Semarang: Universitas Islam Negeri Walisongo. <https://eprints.walisongo.ac.id/id/eprint/17349/>
- Arifin, Z. (2020). *Metodologi penelitian pendidikan*. Bandung: Remaja Rosdakarya.
- Demayanti, F, & Soenarto, S. (2018). Pengembangan video pembelajaran bumbu dan rempah pada mata pelajaran pengolahan makanan kontinental. *Jurnal Inovasi Teknologi Pendidikan*, 5(1), 91–102. <https://doi.org/10.21831/jitp.v5i1.14028>
- Ege, B., Supiandi, M.I, Julung, H., Zubaidah, S., & Mahanal, S. (2021). Usage of leaves in traditional medicine in dayak desa community, indonesia. *Medicinal Plants*, 13(1), 120-130. <https://doi.org/10.5958/0975-6892.2021.00013.7>
- Hakim, L. (2015a). *Rempah dan kebun pekarangan rumah masyarakat: keragaman, sumber fitofarmaka dan wisata kesehatan-kebugaran*. Yogyakarta: Diandra Pustaka Indonesia. <https://biologi.ub.ac.id/wp-content/uploads/2018/11/E-book-Rempah-Herba-Luchman-HAKim-2016.pdf>.
- Hakim, L. (2015c). *Rempah dan herba kebun pekarangan rumah masyarakat*. Yogyakarta: Diandra Pustaka Indonesia. <https://biologi.ub.ac.id/wp-content/uploads/2018/11/E-book-Rempah-Herba-Luchman-HAKim-2016.pdf>.
- Hakim, L., Batoro, L. dan Sukenti, K. (2015b). Etnobotani rempah-rempah di dusun kopen dukuh, kabupaten banyuwangi. *Jurnal Pembangunan dan Alam Lestari*, 6(2), 133-142. <https://jpal.ub.ac.id/index.php/jpal/article/view/198>
- Manangka, C.A., Linda, R., & Mukarlina. (2017). Pemanfaatan tumbuhan sebagai penyedap rasa alami oleh masyarakat suku dayak kanayatn desa sebatih kecamatan sengah temila kabupaten landak. *Protobiont*, 6(3), 158-164. <https://jurnal.untan.ac.id/index.php/jprb/article/view/22470>
- Marin E., Lima, J.R. de F., Palma, A.R.T., Lucena, R.F.P. de. & Cruz, D.D. (2015). Traditional knowledge in rural community in the semiarid region of brazil; age and gender patterns and their implications for plant conservation. *Ethnobotany Research and Applications*, 14, 331-344. <https://ethnobotanyjournal.org/index.php/era/article/view/1172/712>
- Mulyani, R., Sari, D., & Pratama, A. (2019). Potensi senyawa antimikroba dalam bumbu tradisional sebagai pengawet alami. *Jurnal Teknologi Pangan*, 12(2).
- Mulyani, R. (2020). *Teknologi pangan tradisional*. Bandung: Alfabeta.
- Ningsih, D. Q. W. (2021). Etnobotani tumbuhan rempah-rempah oleh masyarakat kabupaten ponorogo jawa timur. *Skripsi*. Malang: Universitas Islam Negeri Maulana Malik Ibrahim Malang. <http://etheses.uin-malang.ac.id/28737/1/I6620118.pdf>
- Pandapotan, S. (2018). Inventarisasi kearifan lokal etnis karo dalam pemanfaatan etnobotani di kabupaten karo. *Journal of Education, Humaniora and Social Sciences*, 1(1), 40-47. <http://www.ojs3.mahesainstitute.web.id/index.php/jehss/article/view/10>



- Prameshti, D., Ardyati, I. & Slamet, A. (2020). Potensi Tumbuhan Rempah dan Bumbu yang Digunakan dalam Masakan Lokal Buton sebagai Sumber Belajar. *BIODIK: Jurnal Ilmiah Pendidikan Biologi*, 6(3), 225–232. <https://doi.org/10.22437/bio.v6i3.9861>
- Qasrin, U., Setiawan, A., Yulianty, Y., & Bintoro, A. (2020). Studi etnobotani tumbuhan berkhasiat obat yang dimanfaatkan masyarakat Suku Melayu Kabupaten Lingga Provinsi Kepulauan Riau. *Jurnal Belantara*, 3(2), 139–152. <https://doi.org/10.29303/jbl.v3i2.507>
- Raflin, F. (2019). Eksplorasi keanekaragaman filum mollusca di kecamatan kayan hilir desa pakak dan pengembangannya sebagai buku referensi. *Skripsi*. Sintang: STKIP Persada Khatulistiwa.
- Raunsay, E.K., Kawatu, J.P., Kameubun, K.M., Rophi, A.H., & Antoh, A.A. (2022). Optimalisasi pekarangan rumah untuk pengembangan tanaman sayuran masyarakat yoboi kehiran kabupaten jayapura. *Jurnal Pengabdian Masyarakat*, 3(3), 1707-1714 <https://doi.org/10.31004/cdj.v3i3.8580>
- Robi, Y., Siti, M.K., & Muflihati. (2019). Etnobotani Rempah Tradisional di Desa Empoto Kabupaten Sanggau Kalimantan Barat. *Jurnal Hutan Lestari*, 7(1), 130-142. <https://doi.org/10.26418/jhl.v7i1.31179>
- Sholichah, L., & Alfidhdhoh, D. 2020. Etnobotani tumbuhan liar sebagai sumber pangan di dusun mendiro, kecamatan wonosalam, Jombang. *Ethnobotany of The Wild Plant as A Food Crop In Mendiro Village, Wonosalam District, Jombang*, 25(1), 111–117.
- Supiandi. M.I., Mahanal. S., Zubaidah. S., Julung. H. & Ege. B. (2019). Ethnobotany of traditional medicinal plants used by dayak desa community in sintang, west kalimantan, indonesia. *BIODIVERSITAS*, 20(5), 1264-1270. <https://doi.org/10.13057/biodiv/d200516>
- Yana, T.M. (2018). Study jenis rempah-rempah dan pemanfaatannya di pasar tradisional angso duo. *Jambi: Uin Sulthan Thaha Saifuddin*. <https://doi.org/http://repository.uinjambi.ac.id/1001/>
- Yanti, H., Advinda, A., & Tavita, G.E. (2023). Pemanfaatan tumbuhan rempah dan bumbu tradisional oleh masyarakat desa sebuduh kecamatan kembayan kabupaten sanggau. *Jurnal Hutan Lestari*, 11(2), 432-450. <https://doi.org/10.26418/jhl.v11i2.61278>
- Yonathan, B.Y., Suwastika, I.N., & Pitopang, R. (2016). Kajian etnobotani tumbuhan pangan pada masyarakat suku seko di desa tanah harapan kecamatan palolo kabupaten sigi sulawesi tengah. *Jurnal Biocelebes*, 10(1), 56-75 <https://garuda.kemdiktisaintek.go.id/documents/detail/2704457>