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Diversity and cultural significance of medicinal plants among multiethnic communities in Jambi Province, Indonesia

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Abstract. *Asra R, Maryani AT, Yelianti U, Fijridiyanto IA, Adriadi A, Wibowo CAP, Saputri VA, Febrianti A. 2025. Diversity and cultural significance of medicinal plants among multiethnic communities in Jambi Province, Indonesia. Biodiversitas 26: 5023-5039.* This study aims to document local knowledge of medicinal plants, analyze species diversity, plant parts used, processing methods, as well as cultivation and conservation practices among three major ethnic communities in Jambi Province, Indonesia: Javanese, Kerinci, and Malay. Data were collected through field observations, documentation, and in-depth interviews with more than 75 informants selected using purposive and snowball sampling techniques. Both qualitative and quantitative analyses were employed, using the Cultural Significance Index (CSI) and Plant Part Value (PPV), with CSI statistical significance thresholds applied to distinguish cultural importance across species. A total of 156 species belonging to 61 families were recorded, with Zingiberaceae being the most dominant. Leaves were the most frequently used plant part (49.75%). The highest CSI value was recorded for *Allium sativum* (60), while the lowest (3) was found in *Saraca indica*, *Styrax benzoin*, and *Salvia rosmarinus*. In terms of disease categories, medicinal plants were most commonly used for diabetes (16.67%), followed by fever (13.46%) and hypertension (12.18%). Knowledge transmission was largely ancestral (62%), supplemented by personal experience (21%), social interactions (10%), and modern sources (7%). These findings highlight the enduring role of medicinal plants as both a health resource and cultural heritage. This study represents the first comparative ethnobotanical analysis of Javanese, Kerinci, and Malay communities in Jambi, contributing novel insights into biodiversity documentation and conservation strategies rooted in local wisdom.

Keywords: Ethnobotany, Jambi, Javanese, Kerinci, Malay

INTRODUCTION

Indonesia is one of the world's biodiversity hotspots, with an estimated 25,000-30,000 plant species distributed across more than 17,000 islands and 50 ecosystem types (Kartawinata 2010). The country is also home to around 300-700 ethnic groups from Sabang to Merauke, each with distinct traditions, cultures, and systems of local knowledge. One of the most significant expressions of this cultural diversity is the utilization of plants for daily life, including food, rituals, construction, dyes, fibers, and traditional medicines. Such knowledge is generally transmitted orally across generations, making it highly vulnerable to erosion.

Medicinal plants account for approximately 10% of Indonesia's flora. Sumatra is among the richest regions in terms of medicinal plant diversity, with species distributed from north to south of the island (Cahyaningsih et al. 2021). Various ethnic groups have also developed unique plant-based healing traditions, such as Besale (Asra et al. 2020) and Nyimur (Awaliah et al. 2020). Provinces such as Bengkulu, South Sumatra, Jambi, and Riau are notable for their relatively balanced multiethnic composition, with no single group comprising more than half of the population. Within these provinces, however, several ethnicities such as Malay, Javanese, Bugis, and Kerinci remain culturally dominant (Pitoyo and Triwahyudi 2017).

The growing body of research on plant use by ethnic groups has shaped the discipline of ethnobotany, which emphasizes the relationship between plant resources and human culture (Appamaraka et al. 2023). Ethnobotany integrates both community-based perspectives and scientific approaches (Silalahi et al. 2015). Beyond its academic role, ethnobotany contributes to cultural preservation, supports the sustainable use of medicinal plants, aids forest conservation, and provides valuable insights for pharmaceutical innovation (Wendimu et al. 2024).

Despite this importance, information on traditional medicinal plants remains limited (Ramli et al. 2021). Several studies highlight the ongoing erosion of traditional knowledge, attributing it to modernization, globalization, and shifts in cultural practices (Navia et al. 2021; Dean 2024). To address this decline, ethnobotanical studies must integrate local wisdom with scientific research to create holistic approaches to health that respect both cultural heritage and modern medical needs.

In Jambi, such efforts are particularly relevant given the province's multiethnic character, where Malay, Javanese, and Kerinci groups maintain diverse traditions of medicinal plant use. Prior studies in Jambi have examined medicinal rituals of the Anak Dalam community (Asra et al. 2020), the ethnobotany of jernang rattan (Asra et al. 2021), the diversity of medicinal plants in traditional markets (Asra et al. 2023), ethnomedicinal practices among the Kembang Paseban community (Adriadi et al. 2022), and the use of medicinal plants in Talang Baru Village, Empat Lawang District (Mawadha et al. 2023).

However, no study has systematically explored the ethnobotanical diversity of medicinal plants across Jambi's multiethnic communities while also addressing conservation issues. This study aims to fill that gap by: (i) documenting local knowledge of medicinal plants among different ethnic groups in Jambi Province, and (ii) identifying the diversity of medicinal plant species, plant parts used, preparation and application methods, dosage, treatment duration, as well as cultivation and conservation practices across these groups.

Through these objectives, this study contributes to a broader understanding of the interconnections between biodiversity, culture, and human well-being in Indonesia. Documenting ethnobotanical knowledge among Jambi's diverse ethnic groups not only preserves intangible cultural heritage but also strengthens community participation in biodiversity conservation. Furthermore, identifying species with high cultural and medicinal significance may guide future bioprospecting and sustainable resource management initiatives. Integrating ethnobotanical findings into conservation planning can ensure that both ecological and socio-cultural values are recognized, supporting Indonesia's national goals for sustainable development and the protection of traditional knowledge systems.

MATERIALS AND METHODS

Study area

This study was conducted from April 2024 to October 2024 in Batang Sangir Village and Kersik Tuo Village, Kayu Aro Sub-district, Kerinci District, as well as Limok Manaih Village, Pulau Tengah, Keliling Danau Sub-district, Kerinci District, and Ulu Gedong Village, Danau Teluk Seberang Sub-district, Jambi City (Figure 1). The data were analyzed in the laboratory of the Faculty of Science and Technology and the Herbarium Anda at the Universitas Andalas, Indonesia.

Data collection

This study uses a descriptive method with a qualitative approach to explore and gather information based on the opinions and experiences of informants. The research begins with direct observation at the following locations: Batang Sangir Village and Kersik Tuo Village, Kayu Aro Sub-district, Kerinci District; Limok Manaih Village, Pulau Tengah District, Keliling Danau Sub-district, Kerinci District; and Ulu Gedong Village, Danau Teluk Seberang Sub-district, Jambi City. Data collection techniques include observation, interviews, documentation, herbarium preparation, and identification of samples. The plants collected are described according to their local names, Latin names, families, habits, and the parts that are used.

The respondent selection technique in this study employs both purposive sampling and snowball sampling methods. According to Sugiyono (2017), purposive sampling is a technique for selecting informants based on specific considerations, in this case, individuals considered to possess the most knowledge about medicinal plants. Snowball sampling is a technique where the number of respondents starts small and then grows, because the initial information is insufficient to provide satisfying details (Sugiyono 2017).

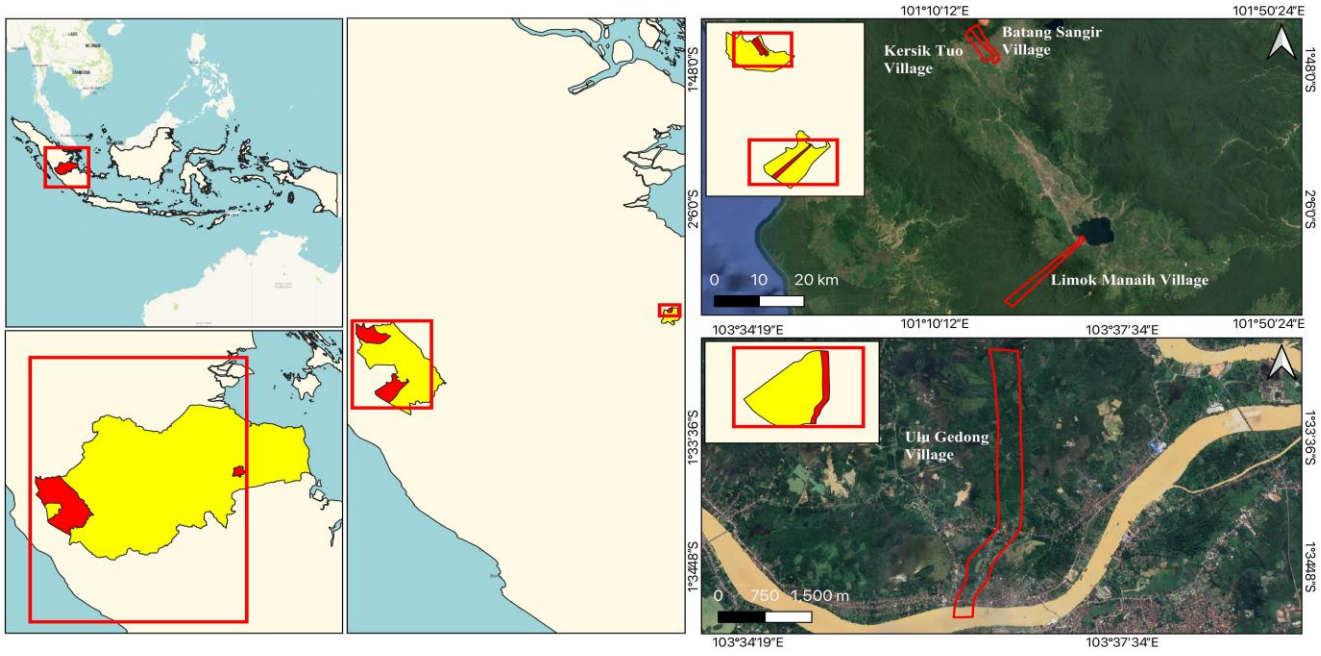

Figure 1. Study site for sampling of medicinal plants in multiethnic groups in Jambi Province, Indonesia

Respondents are selected through an approach to the community to identify key individuals who possess extensive information. The sampling process continues until sufficient information is gathered, an adequate sample size is achieved, and no further recommendations are required (Nurdiani 2014). The criteria for selecting respondents include being over 30 years old, being a native member of the community, and providing accurate information about the research topic. Respondents are grouped into two categories: key informants (such as traditional leaders and traditional healers) and general respondents, totaling more than 75 people.

Information about the diversity of plants used in medicine is obtained through in-depth interviews. The research used an emic and ethical approach. The emic approach was employed through the collection of data, including availability surveys, in-depth interviews, and participatory observations. The ethical process was carried out by validating the community's knowledge and views on medicinal plants (Chikmawati et al. 2023). According to Satori and Komariah (2013), in-depth interviews are conducted within the context of participatory observation. The researcher is intensively involved in the research setting, particularly in their involvement in the informants' daily lives. Thus, in-depth interviews are a process to obtain information for research purposes through a dialogue between the researcher (interviewer) and the informant within a participatory observation context. The interviews are conducted based on a pre-prepared questionnaire (Appendix 1). The questionnaire is designed to gather information about the medicinal plants used, the parts of the plants utilized, the amount of each plant used, and the treatment process. The observation technique used in this study is participatory observation. According to Sugiyono (2017), in participatory observation, the researcher is involved in the daily activities of the people being observed, who serve as data sources for the study. While observing, the researcher participates in the same activities as the informants.

Documentation is conducted to assist in data collection in the field. The documentation includes photos, videos, audio recordings, and interview notes. Plants used as medicinal ingredients are identified, with the focus on their morphological characteristics. Plant sample collection is done by asking respondents to show the plants directly. Specimen identification is conducted by examining the morphological characteristics of the plant samples collected from the field. These samples are then prepared as herbarium specimens, using a plant identification key and comparing them with specimens stored in the herbarium. Identification is conducted at the Biotechnology Laboratory II and the Herbarium Anda at Universitas Andalas.

Data analysis

The data analysis was conducted both qualitatively and quantitatively. The qualitative data analysis involves grouping plants based on categories such as family and genus. Quantitative data analysis is performed by calculating the Cultural Significance Index (CSI) and the Plant Part Value (PPV) of the plant part used.

Plant Part Value (PPV) formula

$$\text{PPV (\%)} = \frac{\Sigma \text{ a plant part}}{\Sigma \text{ All plant parts}} \times 100$$

The percentage of plant parts used, such as roots, stems, leaves, fruit, seeds, flowers, skin, and wood, is determined based on the plant parts used as medicine by several ethnic groups in Jambi Province.

Cultural Significance Index (ICS) formula

Index of Cultural Significance (ICS) is the equation of the sum of the values of a plant species, from utility 1 until n, where n shows the final utility of plant types.

$$\text{ICS} = \sum_{k=0}^{n} (q \times i \times e)n$$

Where, q: Quality value is the value calculated by score to the quality value of a plant species (5: Staple food; 4: Secondary food + primer materials; 3: Other food ingredients + secondary materials; 2: Ritual, mythology; 1: Mere recognition). i: Intensity value is the value calculated by the score for the usage intensity of a plant species (5: Very high intensity; 4: Moderately high intensity of use; 3: Moderate intensity of use; 2: Low intensity; 1: Very rare). E: Value exclusivity is the value calculated by the score to the most preference value of useful plant species (2: Most preferred; 1: There is a replacement species; 0.5: When the species is a secondary source).

RESULTS AND DISCUSSION

The medicinal plant species used

This study recorded 156 medicinal plant species belonging to 61 families (Table 1). Among these, the most frequently used were *Curcuma zanthorrhiza*, *Zingiber zerumbet*, *Curcuma longa*, *Zingiber officinale*, *Alpinia galanga*, and *Kaempferia galanga*, all members of the Zingiberaceae family. The predominance of Zingiberaceae mirrors findings from Berastagi, North Sumatra, where this family constitutes the core of traditional medicine (Aritonang et al. 2024). Their dominance is supported by a rich profile of bioactive compounds (antioxidants, anti-inflammatory agents, and antidiabetic terpenoids), which explains their consistent cultural and medicinal salience across regions.

The present dataset comprehensively captures multiple dimensions of medicinal plant use, including species diversity, Cultural Significance Index (CSI), Plant Part Value (PPV), disease categories treated, and the sources of ethnobotanical knowledge that sustain these practices. This multidimensional approach allows for both quantitative assessment and cultural interpretation of plant use patterns within the studied communities.

The findings revealed 156 species of medicinal plants from 61 families utilized by the Javanese, Kerinci, and Malay ethnic groups in Jambi Province. Their use is largely

driven by the availability of these plants, their relatively low cost, and the community's belief that they have fewer side effects compared to synthetic medicines. The highest proportion of plant use is for the treatment of diabetes (16.67%), followed by fever (13.46%) and hypertension (12.18%).

The transmission of knowledge was predominantly ancestral (62%), supplemented by personal experience (21%), local social interactions (10%), and to a lesser extent, modern platforms such as the internet (7%). Although modernization is gradually diversifying knowledge sources, oral traditions remain the primary foundation of medicinal plant use. This highlights both the resilience of local heritage and the vulnerability of such knowledge systems to erosion if intergenerational transfer declines.

The Cultural Significance Index (CSI) identified *Allium sativum*, *C. longa*, and *Kaempferia rotunda* as the most salient species, reflecting their integration into medicinal, culinary, and ritual domains. Such multifunctionality often elevates species in cultural hierarchies, a pattern also observed in ethnobotanical studies across Asia and Africa. In contrast, species such as *Saraca indica* and *Styrax benzoin* scored low CSI values, indicating niche or declining use restricted to specific ailments or subgroups. This disparity underscores the uneven distribution of cultural knowledge and the differential resilience of plant traditions in multiethnic settings.

Figures 2-4 showed ten medicinal plant species with the highest and lowest Cultural Significance Index (CSI) values among Javanese, Kerinci, and Malay ethnic groups in Jambi. Species not displayed individually are grouped under "other species" for clarity. A complete list of species and their CSI values is available in Table 2.

The ICS Values of 156 medicinal plants across the three studied ethnic groups ranged from 3 to 60 (Table 2). Among the Javanese, the lowest values (3) were recorded for *Ceiba pentandra*, *S. benzoin*, and *Salvia rosmarinus*, while the highest was *A. sativum* (ICS: 60) (Figure 2). Similar findings were reported by Wirabumi et al. (2022), who identified *A. sativum* as the most culturally significant plant in Bali (ICS: 40), reflecting its integration in both medicinal practices and ritual ceremonies. Its prominence is further supported by pharmacological studies showing that garlic contains sulfur-based compounds such as diosgenin, dimethyl disulfide, and trisulfides, which contribute antimicrobial, antioxidant, and anticancer properties (Rana et al. 2022).

In the Kerinci community of Limok Manaih Village, ICS Values ranged from 3 to 54 (Figure 3). The lowest scores were observed in *Justicia gendarussa*, *Kalanchoe laciniata*, and *Brucea javanica* (ICS: 3), while the highest were *A. cepa* and *A. sativum* (ICS: 54). The cultural importance of onion (*A. cepa*) aligns with evidence from multiple regions, including Indonesia, Africa, China, and India, where it has long been used to treat diarrhea, diabetes, and gastrointestinal ailments (Prima et al. 2023). The convergence of *A. cepa* and *A. sativum* as high-value species in Kerinci reflects both their culinary ubiquity and therapeutic reliability.

Among the Malay community in Danau Teluk Seberang Sub-district, ICS Values ranged from 3 to 52 (Figure 4). The lowest score was recorded for *S. indica* (ICS: 3), while *C. longa*, *A. sativum*, and *K. rotunda* reached the highest values (ICS: 52). This finding is consistent with Sitanggang et al. (2022), who reported a high ICS for *C. longa* (48), citing its accessibility and multifunctionality as a spice, stimulant, aromatic, and medicinal plant. The high ranking of Zingiberaceae species in the Malay community illustrates the broader role of this family in Southeast Asian ethnomedicine, where culinary and medicinal uses are often intertwined.

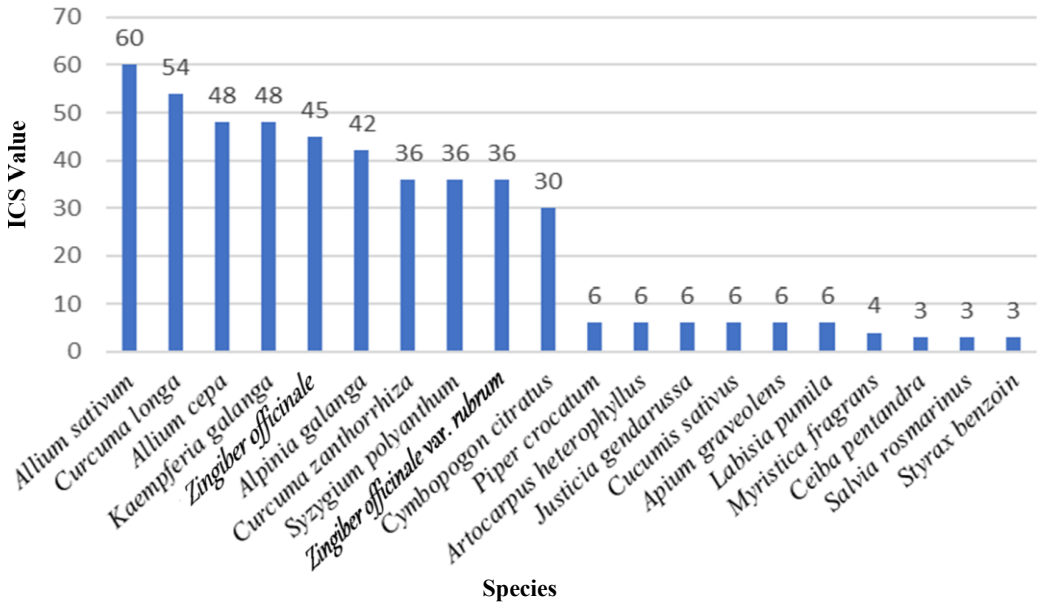

Figure 2. The ten species of medicinal plants that have the highest and the lowest Cultural Significance Index (ICS) Value used by Javanese Tribe in Jambi Province, Indonesia

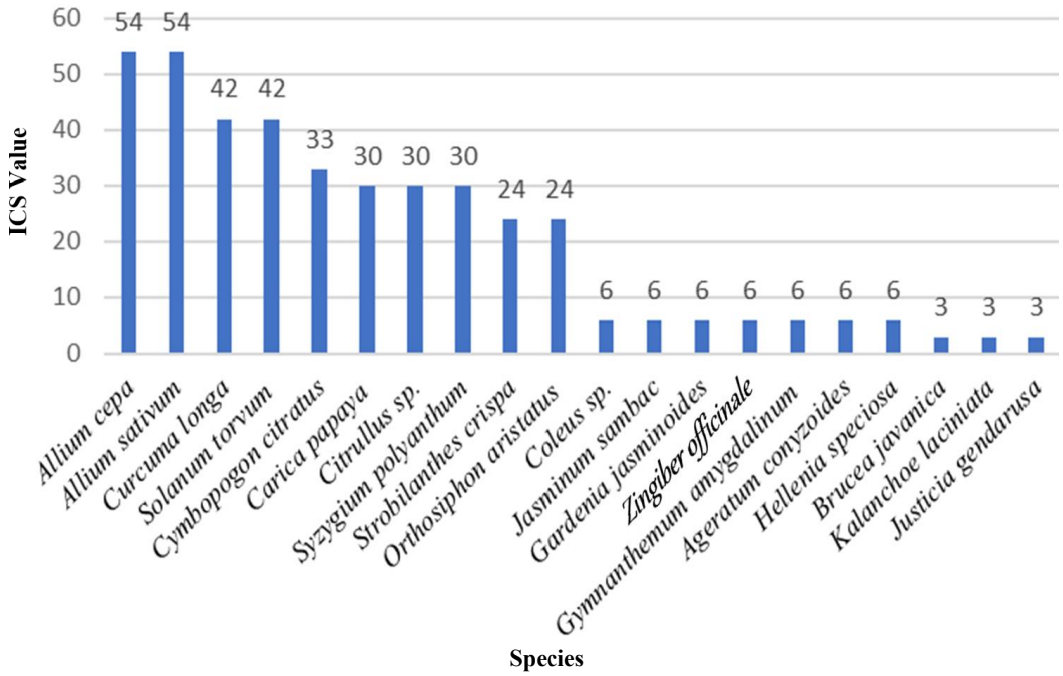

Figure 3. The ten species of medicinal plants that have the highest and the lowest Cultural Significance Index (ICS) Value used by Kerinci Tribe in Jambi Province, Indonesia

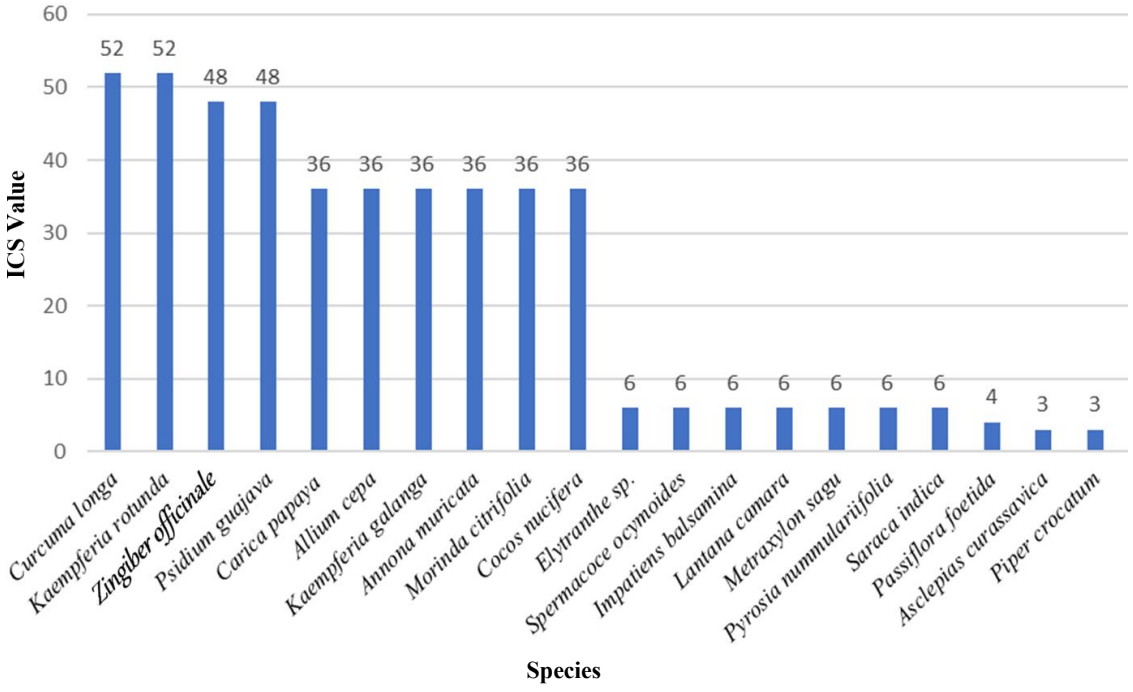

Figure 4. The ten species of medicinal plants that have the highest and the lowest Cultural Significance Index (ICS) Values used by Malay Tribe in Jambi Province, Indonesia

Table 1. List of medicinal plants used by the Javanese, Kerinci and Malay Tribes in Jambi Province, Indonesia

Scientific name	Family	Local name	Uses	Ethnic group			Coll. no.
				J	K	M	
Allium sativum	Amaryllisaceae	*Garlic / White Onion*	Lungs, stroke, cholesterol, headache, cancer	+	+	+	VA01
Allium cepa		*Shallots / Aboa*	Flu, maintaining body health, headache, cancer	+	+	+	VA02
Allium tuberosum		*Chinese Leek*	Fever		+		VA03
Curcuma zanthorrhiza	Zingiberaceae	*Javanese Ginger / Javanese Turmeric*	Gastric acid, cholesterol, pain reliever, flu, maintaining body health, appetite, stomach ulcers, digestive disorders, smoothens circulation, smoothens blood circulation	+	+	+	CA01
Zingiber zerumbet		*Ginger*	Body health, itching, stomach ache, asthma			+	AF01
Curcuma longa		*Turmeric /Kunye/Turmeric*	Muscle aches, menstrual pain, cholesterol, fever, flu, digestive disorders, maintaining body health, diarrhea, gastric acid, ulcers, urinary tract infections, diabetes, appendicitis, headache, itching in the genitals, internal diseases, postpartum recovery, cough	+	+	+	CA02
Curcuma zedoaria		*White Ginger*	Blood circulation, diabetes, digestive disorders, cancer	+			CA03
Curcuma aeruginosa		*Black Meeting*	Maintain body health, blood circulation	+			CA04
Zingiber montanum		*Bengle / Nyelo*	Flu, maintaining body health, fever, headache, leg pain, stomach ache	+	+	+	VA04
Zingiber officinale		*Ginger / Rice*	Muscle aches, stomach acid, cholesterol, digestive disorders, maintaining body health, ulcers, improving blood circulation, coughs, tonsillitis, hypertension, leg pain, joint pain, itching, headaches, coughs	+	+	+	CA05
Zingiber officinale var. *rubrum*		*Red Ginger / Aboa Rice*	Cough, back pain, gout	+	+		CA06
Alpinia galanga		*Laos / Soup*	Muscle aches, rheumatism, scabies, skin diseases, coughs, skin diseases	+	+	+	AF02
Kaempferia galanga		*Aromatic Ginger*	Muscle aches, loss of appetite, cough	+			CA07
Curcuma soloensis		*Glenyeh Meeting*	Maintaining body health	+			CA08
Kaempferia rotunda		*White Turmeric*	Digestive disorders, cancer	+			CA09
Etlingera elatior		*Pabeu*	Hemorrhoid				
Carica papaya	Caricaceae	*Kates / Linggi*	Hypertension, diarrhea, internal heat, malaria, fever, headache, heart disease, stamina enhancer, appetite enhancer	+	+	+	CA10
Sicyos edulis	Cucurbitaceae	*Jipang*	Hypertension	+			CA11
Cucumis sativus		*Cucumber*	Hypertension	+			CA12
Momordica charantia		*Bitter Melon*	Rheumatism	+			CA13
Benincasa hispida		*Kundeu*	Stomach feels cold, fever, back pain, internal heat		+		VA05
Citrullus sp.		*Kunai Cup*	Kidney stones, gallstones		+		VA06
Erythrina subumbrans	Fabaceae	*Dadap Serap*	Fever, sore eyes	+			CA14
Tamarindus indica		*Tamarind*	Sore throat, menstrual pain			+	AF03
Parkia timoriana		*Kedawung*	Stomach ache	+			CA15
Leucaena leucocephala		*Chinese Stink Beans*	Diabetes			+	AF04
Spatholobus littoralis		*Bajaka / Bahea Bay*	Improve immunity, diabetes, leg pain, headache, cough	+	+		CA16
Clitoria ternatea		*Butterfly Pea Flower*	Cancer, cholesterol, and skin health			+	AF05
Mimosa pudica		*Mimosa*	Wrist pain, body health, postpartum herbal medicine		+	+	VA07
Saraca indica		*Ashoka*	Intestinal disease			+	AF06
Senna alata		*The Whispering Sound*	Diabetes		+		VA08

Hibiscus rosa-sinensis	Malvaceae	*Wurawaribang / Flower Ayo / Kembang Rayo*	Fever, malaria	+	+	+	CA17
Sida rhombifolia		*Seleguri*	Medicine to increase breast milk, swelling			+	AF07
Hibiscus sabdariffa		*Acid Reflux*	Hysteria, hypertension, cholesterol			+	AF08
Ceiba pentandra		*Cottonwood*	Removes toxins, fever	+		+	CA18
Psidium guajava	Myrtaceae	*Guava / Red Guava*	Diarrhea, mouth ulcers, itching	+	+	+	AF09
Syzygium aromaticum		*Cloves / Cingkah*	Flu, expelling toxins, lungs, stomach ache	+	+	+	AF10
Syzygium polyanthum		*Greetings / Greetings Greetings*	Cholesterol, hypertension, rheumatism	+	+	+	VA09
Syzygium aqueum		*Water Apple*	Body recovery, itching, flu		+		VA10
Syzygium malaccense		*Guava Bol*				+	AF11
Ageratum conyzoides	Asteraceae	*Bandotan / Pile Of Goat Grass*	Bleeding, lump behind the ear	+	+	+	VA11
Gymnanthemum amygdalinum		*Jumping*	Eye stye medicine		+		VA12
Enydra fluctuans		*Cocoa*	Internal heat		+		VA13
Gynura procumbens		*Connecting Nyawo*	Fever, internal disease, hypertension			+	AF12
Smallanthus maculatus		*Insulin*	Diabetes			+	AF13
Blumea balsamifera		*Capo*	Body recovery, influenza		+		VA14
Cosmos caudatus		*When*	Hypertension, back pain, diabetes		+		VA15
Musa sp.	Musaceae	*Banana*	Bleeding	+			CA19
Musa x paradisiaca.		*The King's Knife*	Malaria		+		VA16
Foeniculum vulgare	Apiaceae	*Fennel*	Cough, diabetes	+			CA20
Daucus carota		*Carrot*	Sore eyes	+			CA21
Centella asiatica		*Pegago*	Cholesterol, rheumatism			+	AF14
Coriandrum sativum		*Coriander*	Tingling, diabetes	+		+	AF15
Apium graveolens		*Celery*	Hypertension	+		+	CA22
Cymbopogon citratus	Poaceae	*Kitchen Lemongrass / Embu Cao*	Sciatica, asthma, digestive disorders, rheumatism, cholesterol, tingling, lungs, back pain, gout, cancer	+	+	+	AF16
Cymbopogon nardus		*Fragrant Lemongrass / Lemongrass Ilak Mbeuh*	Body odor, stroke	+	+		CA23
Leersia hexandra		*Bentau*	Chest pain, internal disease, back pain		+		VA17
Imperata brasiliensis		*Lalo / Weeds*	Internal heat, body health, herbal medicine concoctions		+	+	VA18
Ananas comosus	Bromeliaceae	*Pineapple*	Fertility, cholesterol	+		+	AF17
Aloe vera	Asphodelaceae	*Aloe Vera*	Antioxidants, acne, hair conditioner, bleeding	+	+	+	AF18
Piper betle	Piperaceae	*Betel Leaf / Green Betel Leaf*	Sore eyes, maintaining body health, cholesterol, nosebleeds, tingling, stroke, toothache, back pain, postpartum care, itching	+	+	+	AF19
Piper crocatum		*Red Betel*	Maintaining body health	+		+	CA24
Piper nigrum		*Pepper*	Cigarette addicts, tingling, fleshy growth disease	+	+		CA25
Piper retrofractum		*Javanese Chili*	Kidney disease	+			CA26
Peperomia pellucida		*Chinese Betel Leaf/Chinese Betel Leaf*	Leg pain, gout		+	+	VA19
Acorus calamus	Acoraceae	*Jeringo / Jangoa*	Flu, maintaining body health, stroke	+	+		VA20
Artocarpus heterophyllus	Moraceae	*Jackfruit / Jackfruit*	Diabetes, acne medication, facial cleanser	+	+		CA27
Artocarpus altilis		*Breadfruit*	Cholesterol, hypertension			+	AF20
Diospyros kaki	Ebenaceae	*Persimmon*	Diarrhea, diabetes	+			CA28
Garcinia mangostana	Clusiaceae	*Mangosteen / Manggih*	Digestive disorders, skin health, diabetes, back pain, body aches	+	+		CA29
Strobilanthes crispa	Acanthaceae	*Jibling*	Diabetes, sciatica, bladder stones, kidney disease, back pain, kidney stones, urinary tract pain, cough	+	+	+	AF21
Nauclea sp.		*Bengkal Leaves*	Diarrhea, stomach ache			+	AF22

Rhinacanthus nasutus		*Tonsils*	Sore throat, tonsillitis			+	AF23
Andrographis paniculata		*Sambiloto*	Diabetes, toxic goiter, maintaining body health, stamina booster, headache, leg pain, back pain, fever, malaria, hypertension	+	+	+	AF24
Graptophyllum pictum		*Pudi/ Black Pudding/ Andulung*	Headaches, stomach aches, internal illnesses, weight gain, stamina increase, fever, bruises, gastric acid, hemorrhoids, boils	+	+	+	AF25
Justicia gendarussa		*Gandarusa / Sitajing / Sharp*	Removes toxins, fever	+	+	+	VA21
Orthosiphon aristatus	Lamiaceae	*Cat's Whiskers / Cat's Barbels*	Kidney disease, diabetes, bladder stones, aches and pains, body energy booster, back pain, hypertension, cholesterol, fever, malaria	+	+	+	VA22
Coleus scutellarioides		*Be Careful / The Ito Field*	Medicine for wounds after giving birth, ulcers, malaria		+	+	AF26
Ocimum africanum		*Basil*	Diabetes, appetite stimulant	+		+	AF27
Salvia rosmarinus		*Rosemary*	Flu	+			CA30
Tectona grandis		*Teak*	Headache	+			CA31
Ocimum basilicum		*Basil Leaves*	Throat and digestive medicine, internal heat			+	AF28
Premna oblongifolia		*Grass Jelly*	Stomach cooler		+		VA23
Coleus sp.		*White Pad*	Malaria		+		VA24
Myristica fragrans	Myristicaceae	*Nutmeg*	Blood circulation, tingling, cigarette addicts	+			CA32
Cinnamomum burmannii	Lauraceae	*Cinnamon / Kulaknaih*	Improve immunity, body health, lungs, internal heat, back pain, gout, cholesterol, hypertension	+	+	+	VA25
Persea americana		*Avocado / Pukak*	Kidney disease, hypertension, headache	+	+	+	VA26
Citrus x aurantiifolia	Rutaceae	*Lime / Cotton Orange*	Fever, cough, poisoning, kidney stones, gallstones	+	+	+	VA27
Citrus x limon		*Lemon*	Fever	+			CA33
Citrus hystrix		*Limok Purut*	Poisoning		+		VA28
Pandanus amaryllifolius	Pandanus	*Pandan / Pandanus Muso*	Body feels warm, digestive problems, itching, insomnia	+	+	+	AF29
Tinospora cordifolia	Menispermaceae	*Brotowali*	Diabetes, toxic goiter, improve immunity, blood circulation	+		+	CA34
Solanum betaceum	Solanaceae	*Turquoise Eggplant*	Bruise	+			CA35
Physalis angulata		*Ground Cherry*	Diabetes, increase immunity	+			CA36
Ziziphus mauritiana		*Jujube*	Maintaining body health	+			CA37
Brugmansia suaveolens		*Amethyst*	Stomach ache			+	AF30
Solanum torvum		*Walangge*	Sore eyes		+		VA29
Annona muricata	Annonaceae	*Soursop / Dinggri / Dutch Durian*	Cholesterol, hypertension, ulcers, back pain	+	+		VA30
Moringa oleifera	Moringaceae	*Moringa / Karadek*	Maintaining body health, fever	+	+	+	AF31
Manihot esculenta	Euphorbiaceae	*Cassava Shoots*	Flu	+			CA38
Jatropha multifolia		*China Distance / Betadine Duung*	Gastrointestinal disorders, bleeding	+	+	+	CA39
Euphorbia tirucalli		*Broken Bone Tree*	Broken bones, sprains			+	AF32
Euphorbia heterophylla		*Katimas*	Diarrhea	+			CA40
Jatropha curcas		*Jihoa*	Malaria, body recovery, stomach ache, neck pain		+		VA31
Ricinus communis		*Distance / Fat Gravel*	Stomach ache, ringing in the ears		+	+	VA32
Aleurites moluccanus		*Kinto*	Facial cleanser		+		VA33
Manihot carthagenesis		*Sweet Potato*	Toxic goiter		+		VA34
Pyrus pyrifolia	Rosaceae	*Pear*	Flu	+			CA41
Rosa sp.		*Rau Flower*	Headache		+		VA35
Malus domestica		*Malang Apple*	Nosebleed	+			CA42
Styrax benzoin	Styracaceae	*Incense*	Itching, scabies	+			CA43
Taxus sumatrana	Taxaceae	*Taxus*	Fever, cancer, lymph nodes	+			CA44
Cocos nucifera	Arecaceae	*Coconut / Nenyo*	Neutralizes poison, gallstones, measles, malaria, fever, internal diseases	+	+	+	AF33

Salacca zalacca		*Salok*	Diarrhea		+		VA36
Areca catechu		*Pino*	Appendicitis, hemorrhoids, back pain, body aches, body weakness		+		VA37
Metroxylon sagu		*Rumbia*	Smooth digestion, maintain bone health, lower cholestrol			+	AF34
Cordyline fruticose	Aparagaceae	*Hole*	Stomach acid	+			CA45
Eurycoma longifolia	Simaroubaceae	*Earth Stake*	Diabetes, toxic goiter, hypertension, body restorer	+	+		CA46
Brucea javanica		*Differentiate The Scene*	Hypertension, stamina booster		+		VA38
Kopsia arborea	Apocynaceae	*Pronojiwo*	Diabetes, toxic goiter	+			CA47
Asclepias curassavica		*Needle Flower*	Stomach ache, wounds, skin disease.			+	AF35
Catharanthus roseus		*Footprint*	Diabetes, cancer, sore throat, cough, postpartum herbal medicine.			+	AF36
Plantago major	Plantaginaceae	*Spoon Leaf*	Fever, malaria	+			CA48
Labisia pumila	Primulaceae	*Fatimah Grass*	Kidney disease	+			CA49
Kalanchoe laetivirens	Crassulaceae	*Cocor Bebek / Peringi Batu / Setawar Leaves*	Fever, malaria	+	+	+	AF37
Kalanchoe laciniata		*Remind*	Fever, back pain, internal heat		+		VA39
Manilkara zapota	Sapotaceae	*Elbow-Elbow/Sapodilla*	Diarrhea		+	+	VA40
Anredera cordifolia	Basellaceae	*Binoha*	Gout		+		VA41
Jasminum sambac	Oleaceae	*Jasmine*	Headache, shortness of breath, flu		+	+	VA42
Lawsonia inermis	Lythraceae	*This Is The Fruit*	Stomach, ringworm		+		VA43
Punica granatum		*Pomegranate*	Cancer		+		VA44
Lagerstroemia special		*Bungur*	Stomach ache			+	AF38
Camellia sinensis	Theaceae	*Tea*	Diarrhea		+		VA45
Averrhoa bilimbi	Oxalidaceae	*Iron Sledgehammer, Vegetable Starfruit*	Medicine for itching, hypertension		+	+	AF39
Scurrula atropurpurea	Gesneriaceae	*Tea Mistletoe*	Cancer	+			CA50
Phyllanthus niruri	Phyllanthaceae	*Put The Anok In*	Back pain, stomach ache, rheumatism, body recovery, fever		+		VA46
Phyllanthus urinaria		*Fruit Tray*	Stomach ache, diabetes, kidney stones			+	AF40
Bischofia javanica		*Ube Shoots*	Bloated		+		VA47
Hellenia speciosa	Costaceae	*Tawo Flour*	Internal heat		+		VA48
Gardenia jasminoides	Rubiaceae	*Chinese Big*	Headache		+		VA49
Spermacoce ocymoides		*Horse Footprint*	Rheumatism			+	AF41
Morinda citrifolia		*Noni*	Stomach ache, ulcer			+	AF42
Persicaria acuminata	Polygonaceae	*Tubo Leaves*	Toxic goiter		+		VA50
Hippobroma longiflora	Campanula*ceae*	*Cataract Flower*	Eye pain, cataracts		+	+	AF43
Muntingia calabura	Elaeocarpaceae	*Cherries*	Diabetes			+	AF44
Celosia cristata	Amaranthaceae	*The Chief*	Spiritual healing			+	AF45
Pereskia pereskia	Cactaceae	*Elephant Footprint*	Internal heat, sore throat			+	AF46
Stachytarpheta jamaicensis	Verbenaceae	*Horse Whip*	Tonsillitis medicine, sore throat			+	AF47
Lantana camara		*Cemaro Flower*	Relief from cough, fever, and respiratory disturbances			+	AF48
Brassica oleracea	Brassicaceae	*Cabbage*	Kidney stones			+	AF49
Raphanus sativus		*Turnip*	Digestion, eyes				
Pachyrhizus erosus		*Jicama*	Preventing dehydration, controlling blood sugar, reducing cancer risk, helping with diet and weight loss, taking care of the skin			+	AF50
Melastoma affine	Melastomaceae	*Sitting*	Diabetes, hypertension			+	AF51
Passiflora foetida	Passifloraceae	*Pop Pop*	Smallpox, itching			+	AF52
Elytranthe sp.	Loranthaceae	*Mistletoe*	Cancer			+	AF53
Pyrrosia sp.	Polypodiaceae	*Sakat Duet*	Medicine for wounds aftergiving birth, ulcers			+	AF54

Note: J: Javanese Ethnic Group, K: Kerinci Ethnic Group, M: Malay Ethnic Group, CA: Christian Abel, VA: Veronika Ayu, AF: Arikah Febrianti

Table 2. Cultural Significance Index (ICS) Values of medicinal plants used by the Javanese, Kerinci and Malay Tribes in Jambi Province, Indonesia

Plant name	Scientific name	Habitus	ICS Value of multiethnic		
			K	J	M
Turmeric	*Curcuma longa*	Herb	42	54	52
Ginger	*Zingiber officinale*	Herb	24	45	48
Cat Whiskers	*Orthosiphon aristatus*	Herb	24	24	24
Pawpaw	*Carica papaya*	Pole	30	24	36
Kitchen Lemongrass	*Cymbopogon citratus*	Bush	33	30	24
Green Betel	*Piper betle*	Liana	18	18	24
Regards	*Syzygium polyanthum*	Tree	30	36	8
Red Onion	*Allium cepa*	Herb	54	48	36
Curcuma	*Curcuma zanthorrhiza*	Herb	18	36	24
Aromatic Ginger	*Kaempferia galanga*	Herb		48	36
Soursop	*Annona muricata*	Tree	24	18	36
Keji Beling, Broken Plate	*Strobilanthes crispa*	shrub	24	24	24
Sambiloto	*Andrographis paniculata*	Herb	24	24	12
Lime	*Citrus aurantiifolia*	shrub	24	27	12
Distance From Thekepyar	*Ricinus communis*	shrub	18		24
Pudi, Blackpudding, Purple Leaf	*Graptophyllum pictum*	shrub	24	24	24
Sembung Leaves, Capo	*Blumea balsamifera*	shrub	24		12
Noni	*Morinda citrifolia*	Tree			36
Bangles	*Zingiber montanum*	Herb	6	6	24
Avocado	*Persea americana*	Tree	18	9	24
Garlic	*Allium sativum*	Herb	54	60	52
Bandotan	*Ageratum conyzoides*	Herb	6	18	12
Anok's Salute	*Phyllanthus niruri*	Bush	18		
Guava	*Psidium guajava*	shrub	24	12	48
Aloe Vera	*Aloe vera*	Herb	18	18	12
Bratawali, The Second Root	*Tinospora cordifolia*	Liana		24	24
Coconut	*Cocos nucifera*	Tree	12	30	36
Cataract Flower, Eye Drop Flower	*Hippobroma longiflora*	Herb	24	18	12
Fracture	*Euphorbia tirucalli*	Bush			12
Cinnamon	*Cinnamomum burmannii*	Tree	6	25.	12
Moringa	*Moringa oleifera*	shrub	24	30	24
Betel Nut	*Areca catechu*	Tree	12		6
Jeringau	*Acorus calamus*	Herb	6	12	
Connect Lives	*Gynura procumbens*	shrub			24
Red Ginger	*Zingiber officinale* var. *rubrum*	Herb	6	36	12
Galangal	*Alpinia galanga*	Herb	18	42	12
Henna	*Lawsonia inermis*	shrub	24		12
Lemongrass	*Cymbopogon nardus*	Herb	18	18	12
Pepper	*Piper nigrum*	Liana	18	24	
White Turmeric	*Kaempferia rotunda*	Herb		30	52
Bento Grass	*Leersia hexandra*	Bush	18		
Clove	*Syzygium aromaticum*	shrub	18	12	12
Black Meeting	*Curcuma aeruginosa*	Herb		24	
Chinese Betel	*Peperomia pellucida*	Herb	24		36
Hibiscus	*Hibiscus rosa-sinensis*	shrub	12	24	36
Earth Stake	*Eurycoma longifolia*	Tree	24	9	
Gotu Kola	*Centella asiatica*	Herbs			12
Be Careful, Be Careful	*Coleus scutellarioides*	Bush	6		6
White Ginger	*Curcuma zedoaria*	Herb		24	
China Distance	*Jatropha multifolia*	Herb	6	30	36
Gourd	*Benincasa hispida*	Liana	9		
Coriander	*Coriandrum sativum*	Herb		27	24
Jasmine	*Jasminum sambac*	shrub	6		12
The Scallop	*Senna alata*	shrub	12		24
Remind	*Kalanchoe laciniata*	Herb	3		
Different Scenes	*Brucea javanica*	shrub	3		
Fence Distance	*Jatropha curcas*	shrub	12		
Laksa Flower	*Etlingera elatior*	Herb	21		
Ground Cherry	*Physalis angulata*	Herb		12	6
Pandanus	*Pandanus amaryllifolius*	shrub	12	24	12
Jujube	*Ziziphus mauritiana*	Tree		24	24
Yellow Watermelon	*Citrullus* sp.	Liana	30		

Jumping	*Gymnanthemum amygdalinum*	Tree	6		
Meniran	*Phyllanthus urinaria*	Herbs	18		12
Starfruit	*Averrhoa bilimbi*	shrub	24		12
Dadap	*Erythrina subumbrans*	Tree		24	
Bajaka Wood	*Spatholobus littoralis*	Tree	6	12	
Sapodilla	*Manilkara zapota*	Tree	9		18
Tea	*Camellia sinensis*	shrub	12		
Pineapple	*Ananas comosus*	Herb		18	24
Duck's Beak	*Kalanchoe laetivirens*	Herb	18	9	12
Cucumber	*Cucumis sativus*	Liana		6	6
Celery	*Apium graveolens*	Herb		6	6
Bungur	*Lagerstroemia speciosa*	Tree			6
Cocoa	*Enydra fluctuans*	Herb	24		
Rose	*Rosa* sp.	shrub	24		
Cino Gedang, Glass Leaf Plate	*Gardenia jasminoides*	shrub	6		18
Turnip	*Raphanus sativus*	Herbs			17
Basil	*Ocimum africanum*	Tree		24	6
Cassava	*Manihot esculenta*	shrub		30	
Butterfly Pea Flower	*Clitoria ternatea*	Herbs			36
Sparrow Eggplant	*Solanum torvum*	shrub	42		
Carrot	*Daucus carota*	Bush		9	6
Mangosteen	*Garcinia mangostana*	Tree	9	18	
Turquoise Eggplant	*Solanum betaceum*	shrub		18	
Bitter Melon	*Momordica charantia*	Liana		18	
Tamarind	*Tamarindus indica*	Tree		24	24
Weeds	*Imperata brasiliensis*	Bush	12		12
Rosella	*Hibiscus sabdariffa*	Herb			36
Red Betel	*Piper crocatum*	Liana		6	4
Breadfruit	*Artocarpus altilis*	Tree			24
Mimosa	*Mimosa pudica*	Herb	24		24
Basil	*Ocimum basilicum*	Herb			24
Gandarusa, Sharp Leaves, Sitajing	*Justicia gendarussa*	shrub	3	6	6
Pear	*Pyrus pyrifolia*	Tree		30	6
Seleguri	*Sida rhombifolia*	shrub			6
Poisoned Sweet Potato	*Manihot carthagenesis*	shrub	15		
White Field	*Coleus* sp.	Bush	6		
Tubo Leaf	*Persicaria acuminata*	Bush	15		
Cherry	*Muntingia calabura*	Tree			12
Kenikir	*Cosmos caudatus*	Herb	18		
Sitting	*Melastoma affine*	Bush			12
Bengkal Leaves	*Nauclea* sp.	Tree			6
Amethyst	*Brugmansia suaveolens*	Tree			6
Leaf	*Parkia timoriana*	Tree		24	
Sumatran Pine	*Taxus sumatrana*	Tree		24	
Glenyeh Meeting	*Curcuma soloensis*	Herb		24	
Tea Mistletoe	*Scurrula atropurpurea*	Parasite		24	
Lime	*Citrus hystrix*	shrub	24		
Candlenut	*Aleurites moluccanus*	Tree	24		
Binahong	*Anredera cordifolia*	Liana			
Pomegranate	*Punica granatum*	Tree	24		
Tawo Flour	*Hellenia speciosa*	shrub	6		
Horse Whip	*Stachytarpheta jamaicensis*	Herbs			12
Jicama	*Pachyrhizus erosus*	Herbs			12
Lemon	*Citrus limon*	shrub		18	
Ginger	*Zingiber zerumbet*	Herbs			6
Water Apple	*Syzygium aqueum*	Tree	15		
Fennel	*Foeniculum vulgare*	Herb		18	
Spoon Leaf	*Plantago major*	Herb		18	
Teak	*Tectona grandis*	Tree		18	
Insulin	*Smallanthus maculatus*	shrub			12
Parasite	*Elytranthe* sp.	Tree			6
Horseshoe	*Spermacoce ocymoides*	Bush			6
Persimmon	*Diospyros kaki*	Tree		9	
Malang Apple	*Malus domestica*	shrub		12	
Chinese Stink Beans	*Leucaena leucocephala*	Tree			12
Grass Jelly	*Premna oblongifolia*	shrub	12		
Footprint Of Virgin	*Catharanthus roseus*	Herbs			24

Plantain	*Musa paradisiaca*	Herb	12		
Ube Shoots	*Bischofia javanica*	shrub			
Banana	*Musa* sp.	Herb		9	
Cottonwood	*Ceiba pentandra*	Tree		3	
Red Leaf	*Cordyline fruticosa*	Herb		9	
Pronojiwo	*Kopsia arborea*	shrub		9	
Katimas	*Euphorbia heterophylla*	Herb		9	
Javanese Chili	*Piper retrofractum*	Liana		9	
Elephant Footprint	*Pereskia pereskia*	Bush			12
Cabbage	*Brassica oleracea*	Herbs			12
Chicken Thigh Flower	*Lantana camara*	Herbs			6
Rumbia	*Metroxylon sagu*	Tree			6
Guava Bol	*Syzygium malaccense*	Tree			12
Chayote	*Sicyos edulis*	Liana		6	
Jackfruit	*Artocarpus heterophyllus*	Tree	24	6	
Incense	*Styrax benzoin*	Tree		3	
Fatimah Grass	*Labisia pumila*	Herb		6	
Snakefruit	*Salacca zalacca*	Tree	12		
Chinese	*Allium tuberosum*	Herb	6		
Wild Orchid Climber	*Pyrrosia* sp.	herbs			6
Nutmeg	*Myristica fragrans*	Tree		4	
Rosemary	*Salvia rosmarinus*	Herb		3	
Ashoka	*Saraca indica*	Bush			3
Explosive	*Passiflora foetida*	Herbs			6
Needle Bar	*Asclepias curassavica*	shrub			6
The Chief	*Celosia cristata*	Herb			6
Tonsils	*Rhinacanthus nasutus*	Herb			6

Notes: J: Javanese Tribe, K: Kerinci Tribe, M: Malay Tribe

Table 3. ICS Value calculation

Tribe	Species	Use value	ICS	Total
Java	*Allium sativum*	Medicine	(3×5×2)	60
		Food	(3×5×2)	
Kerinci	*Allium cepa*	Medicine	(3×4×2)	54
		Food	(3×5×2)	
	Allium sativum	Medicine	(3×4×2)	54
		Food	(3×5×2)	
Melayu	*Curcuma longa*	Medicine	(3×4×1)	52
		Food	(4×5×2)	
	Allium sativum	Medicine	(3×4×1)	52
		Food	(4×5×2)	
	Kaempferia rotunda	Medicine	(3×4×1)	52
		Food	(4×5×2)	

Comparative analysis (Table 3) across the three ethnic groups shows that species with high ICS Values—particularly *A. sativum*, *A. cepa*, and *C. longa*—are characterized by dual-use functions as both medicine and food, ensuring frequent and sustained use in daily life. Conversely, species with the lowest ICS Values (e.g., *S. indica*, *S. benzoin*, *S. rosmarinus*) are either restricted to specific ailments or limited to certain knowledge holders, resulting in narrower cultural distribution. This duality highlights how cultural salience is shaped by both pharmacological efficacy and integration into everyday practices.

From the data above, it can be concluded that the level of importance of these plants for the local communities influences the differences in ICS Values. Plants with lower utility values indicate that the plants are rarely used and considered less significant in local ethnobotanical practices. Although still used as medicinal plants, their use may be more limited than other plants. Meanwhile, plants with the highest utility values indicate the importance of these plants in various contexts, including traditional medicine, culinary, economic, ritual, and spiritual contexts, across the three local areas. This shows differences in the level of usefulness and cultural meaning. The majority of plants fall into the medium ICS category, which is evenly distributed among the three tribes, indicating that these plants play functional and versatile roles in daily life. Plants with high ICS Values are more frequently found among the Malay and Javanese Tribes, indicating the importance of these plants in their traditions and cultural practices. In contrast, plants with low ICS Values, which are more common in the Kerinci Tribe, indicate a more

limited role in cultural life. This indicates that nearly half of the plants studied are considered important and widely utilized in various contexts by the local community in the three research areas.

This study also highlights several interesting medicinal plant species, as outlined below. *Taxus wallichiana,* also known as the Sumatran cypress, belongs to the Taxaceae family. It grows like a bush when young and can grow into a tree 12-25 m high (Figure 5). According to the IUCN Red List conservation status, this Sumatran cypress plant is categorized as endangered (EN) (iucnredlist.org). The Javanese people who are aware of the treatment using Sumatran cypress are few, as this plant is rare. The Sumatran cypress began to be conserved by local communities in 2023, thanks to funding provided by the Kerinci Seblat National Park (TNKS) and the State Electricity Company (PLN) under the Indonesian Ministry of Environment and Forestry (Figure 5). The bark of the Sumatran cypress can be used as a medicinal treatment for fever. To prepare it, gather a handful of bark, clean it, and boil it, then drink the water. Sumatran cypress leaves can be used to treat certain types of cancer. Collect a handful of leaves, clean them, boil the leaves, and then drink the resulting water. The stem of Sumatran cypress can be used to treat lymphatic glands. Prepare a handful of Sumatran cypress stems, clean them, then boil and drink the resulting water.

Batang sejarum is the name of the Malay Tribe in Danau Teluk Seberang Sub-district Jambi City, associated with the *A. curassavica* (Figure 6). This plant is often recognized as an ornamental plant due to its bright and eye-catching flowers, but it is also frequently used in traditional medicine. The part used is the sap released by this plant. One of the benefits of this plant is its ability to treat skin diseases and promote wound healing. The sap can be directly applied to the affected area, which is believed to accelerate the healing process.

In the local language of the Kerinci Tribe in Limok Manaih Village, Pulau Tengah, *R. communis* is known as *"kerikel lemak"* (Figure 7). *Ricinus communis* is traditionally used by the Kerinci Tribe in Limok Manaih Village, Pulau Tengah, to treat tinnitus (ringing in the ears). Morphologically, the shape of the stem is hollow, similar to a papaya stem, and the part used is the stem. To use it: heat the stem over a fire until it is warm, then direct it towards the ear and blow on it.

Utilization of medicinal plants

The local Javanese people in Kersik Tuo Village and Batang Sangir still use plants as alternative medicine. Some of the reasons why people still use plants as medicine are that they are readily available, less expensive, and have fewer side effects. Information related to the use of medicinal plants is passed down through generations, from ancestors and personal experience. The plants most widely used by the Javanese people come from the Zingiberaceae family, with as many as 11 species used to make herbal drinks (*jamu*). Javanese people usually take the rhizome, then grate or crush it, and boil it, straining the liquid for direct consumption.

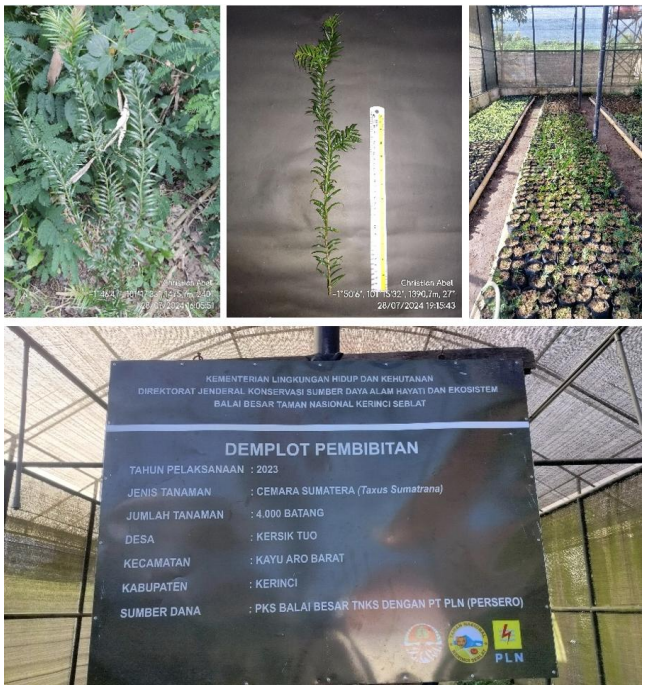

Figure 5. Habit of *Taxus wallichiana*

Figure 6. Habit of *Asclepias curassavica*

Figure 7. Habit of *Ricinus communis*

The local Kerinci ethnic community in Limok Manaih Pulau Tengah Village, Keliling Danau Sub-district, Kerinci District, still widely utilizes medicinal plants in their daily lives, especially for preventing and treating ailments such as back pain, fever, hypertension, diarrhea, and others. Information about the use of medicinal plants comes from dreams, ancestral heritage, parents, neighbors, and the internet. The most widely used medicinal plants by the Kerinci Tribe Community in Limok Manaih Pulau Tengah Village belong to the Zingiberaceae family, with 6 species identified.

The local Malay community in Danau Teluk Seberang Sub-district, Jambi City, is still aware of several plants used for medicinal purposes, though direct application has become rare. According to the study's results, the most common medicinal plants used in Danau Teluk Seberang Sub-district, Jambi City, belong to the Zingiberaceae family, with 6 species identified.

Humans have to rely on medicines from nature, mostly from plants. Treatment of infections and health disorders with herbal medicines primarily involves low-molecular-weight active natural products with great structural diversity (so-called secondary metabolites), which are characteristic of all plants. From an evolutionary pharmacological perspective, plant secondary metabolites represent a library of bioactive compounds that humans have utilized to treat infections and health disorders (Wink 2015).

The plant parts utilized in traditional medicinal practices among the Javanese, Kerinci, and Malay communities are summarized in Table 4. Leaves constitute the most commonly used plant part, accounting leaf for 49.75% (101 species), followed by fruits (15.27%) and stems (7.88%). These data serve as the foundation for calculating the Plant Part Value (PPV), and the overall distribution is illustrated in Figure 8.

Parts of the plant used

Based on the detailed data presented in Table 4, leaves are the most commonly used part of medicinal plants among the Javanese, Kerinci, and Malay communities in Jambi Province, accounting for 49.75% (101 species), followed by fruits (15.27%) and stems (7.88%). This pattern is visually presented in Figure 8. These findings align with those of Iskandar et al. (2022), who reported that leaves are the most frequently used plant part (29.4%) among Malay communities in West Kalimantan. However, this study differs from Sharif et al. (2024), who found that the whole plant and leaves were equally utilized. The clear distribution of plant parts enabled accurate calculation of the Plant Part Value (PPV) index.

Table 4. Plant parts used for medicinal purposes by multiethnic communities in Jambi Province, Indonesia

Plant part	Number of species	Percentage (%)
Tuber	4	1.97
Rhizome	12	5.91
Leaf	101	49.75
Fruit	31	15.27
Stem	16	7.88
Root	14	6.90
Bark	4	1.97
Flower	11	5.42
Sap	3	1.48
Seed	5	2.46
Fruit skin	1	0.49
Shell	1	0.49
Total	203*	100%

Note: *: The total number of plant parts exceeds the number of species because some plants are used for multiple parts

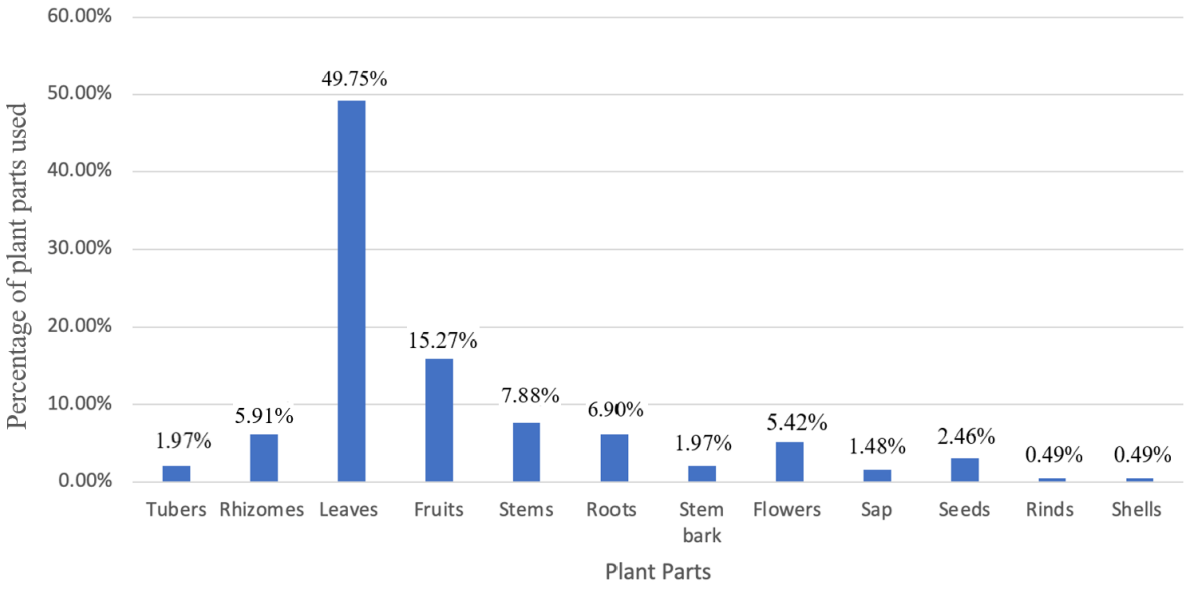

Figure 8. Percentage of plant parts used, based on data shown in Table 4

High use of leaf parts because they are easy to find and do not harm other parts of the plant. Leaves are easy to collect and possess medicinal properties compared to other parts, are not dependent on specific seasons, and are easy to process (Elfrida et al. 2021). Additionally, the high percentage of the leaf part is attributed to its simplicity in harvesting and its high level of active phytochemicals, such as alkaloids, heterosides, and essential oils, which contribute to its role in treating diseases (Benkhnigue et al. 2023). The next most used plant parts are fruits (15.27%) and stems (7.88%). According to Suwardi et al. (2020), fruits provide a variety of essential nutrients, including vitamins, minerals, and fiber, which are crucial for maintaining good health. The various fruit plants provide essential vitamins and minerals for a healthy life.

Based on the total data of plants used for various diseases, the disease with the highest number of medicinal plants is diabetes (16.67%) (Figure 9). According to Diop et al. (2022), the highest proportion of medicinal plant use reflects the community's need for alternative natural treatments. It is followed by fever (13.46%) (Figure 9) and hypertension (12.18%). The diseases with the least medicine are sprains, cataracts, increasing breast milk (ASI), and canker sores, namely (0.64%) (Figure 9).

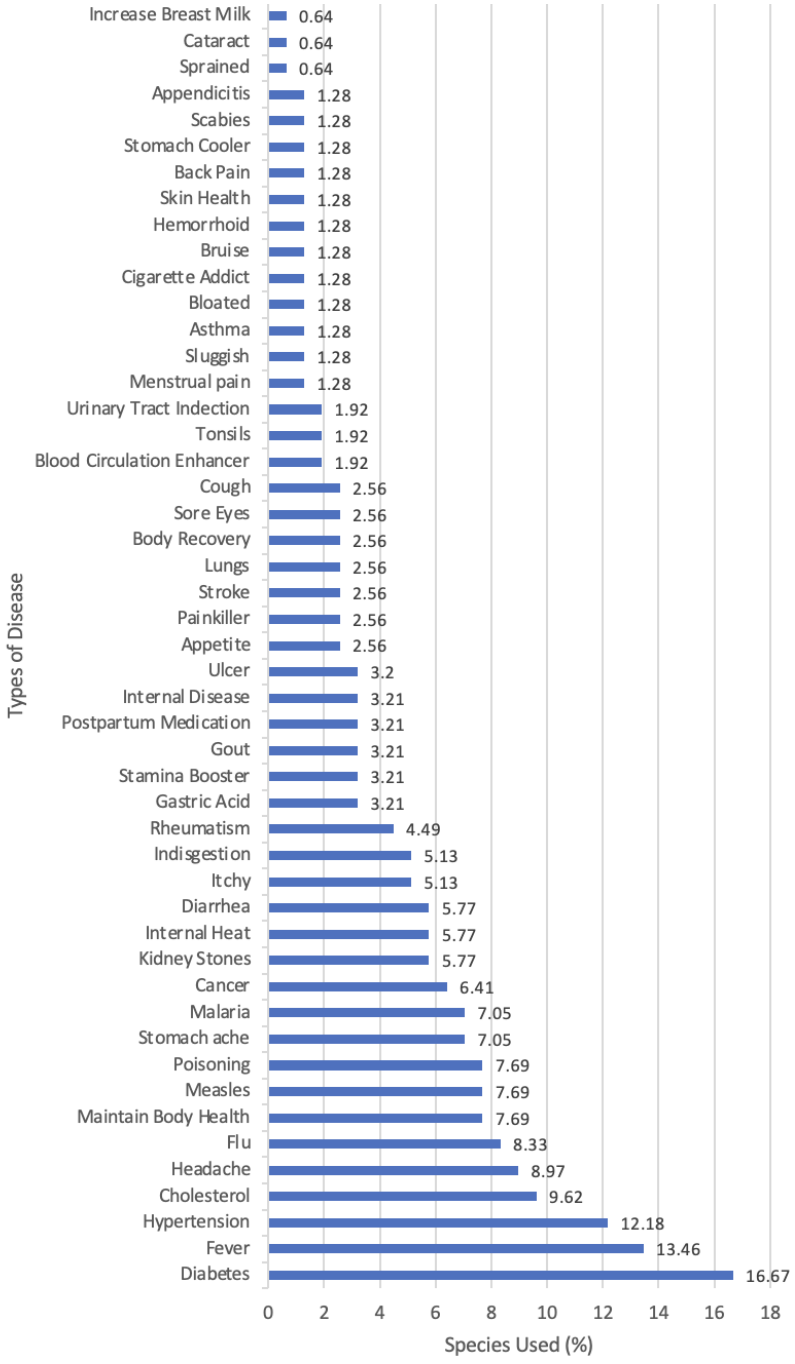

Figure 9. Percentage of medicinal plant species used base on disease types

In 2021, out of a total of 179 million adults in Indonesia, 19 million have diabetes (Webber 2021). According to Wahidin et al. (2024), habits among Indonesian, such as smoking addiction, lack of exercise, irregular eating habits, including high consumption of sugar, salt, and saturated fat, contribute to various diseases such as cholesterol, hypertension, and diabetes. These factors have led to increased public knowledge about natural treatments using plants. According to Sumarni et al. (2019), traditional Indonesian herbal medicine, which has been practiced for centuries in Indonesian society, remains very popular for maintaining health and treating diseases, as it is believed to be safer than chemical medicines. The indigenous knowledge of the efficacy of various medicinal plants is an ancestral heritage that has been proven to be useful and safe, based on the experience of our ancestors. Fever symptoms themselves are empirically related to symptoms like "heatiness," cough, cold, and headaches. These symptoms can affect individuals of all ages, from children to the elderly. Therefore, the percentage of natural treatments using plants is relatively high, as untreated symptoms could potentially lead to the flu.

In conclusion, this study successfully documents the rich diversity of medicinal plants among multiethnic communities in Jambi Province, recording 156 species from 61 families. These findings highlight not only the biological diversity but also the cultural relevance of medicinal plant use across Javanese, Kerinci, and Malay communities. Rather than overstating the implications, this research should be regarded as a comprehensive documentation of ethnobotanical knowledge that can serve as a foundation for future pharmacological validation and scientific exploration. The widespread reliance on medicinal plants demonstrates their ongoing role in daily healthcare, while also reflecting cultural continuity through ancestral knowledge transmission. To strengthen conservation and utilization efforts, the study recommends prioritizing species with high Cultural Significance Index (CSI) values (e.g., *C. longa*, *A. sativum*, *K. rotunda*) in both conservation programs and community-based initiatives. In addition, integrating traditional knowledge into public health policies and local healthcare strategies could ensure that this heritage remains relevant while complementing modern medicine.

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