

## Medicinal Plant Inventory in Pasié Jambu Village, Kaway XVI Subdistrict, West Aceh Regency

Nasrianti Syam(\*)<sup>1</sup>, Mardi Fadillah<sup>2</sup>, Cukri Rahma<sup>1</sup>

<sup>1</sup> Department of Nutrition, Faculty of Public Health, Teuku Umar University

<sup>2</sup> Public Health Study Programme, Faculty of Public Health, Teuku Umar University  
Jl. Alue Peunyareng, Gunong Kleng, Meureubo, West Aceh, Aceh 23681, Indonesia

\*Corresponding author: nasriantisiam@utu.ac.id

Submitted December 01<sup>st</sup> 2023 and Accepted February 28<sup>th</sup> 2024


### Abstract

Indonesia has one of the greatest quantities of biodiversity in the world, which is utilized by industries such as medicines as a source of raw materials. As is the case with the inhabitants of Pasié Jambu Village, Kaway XVI Subdistrict, West Aceh Regency, medicinal plants contain substances that can be used to treat diseases of the human body or organs. The research aims to determine which plant parts are utilized by village communities, as well as the manner in which those parts are processed. Precisely on purpose, the snowball method was implemented. The findings derived from the interviews indicated that the inhabitants of Pasié Jambu Village utilized a total of 34 different plants. At 62%, the leaves are the most widely utilized part of the plant; at 3%, the roots, skin, and tubers are the least utilized. These plants are subjected to various processing methods, including boiling, pounding, smearing, and wiping. Among these, pounding is frequently employed at a rate of 52%, while chewing accounts for at least 3%

**Keywords:** *Alternative medicine, Medicinal plant, Pasié Jambu village*



Jurnal Pembelajaran dan Biologi Nukleus (JPBN) by LPPM Universitas Labuhanbatu is under a Creative Commons Attribution-ShareAlike 4.0 International License (CC BY - SA 4.0)

 <https://doi.org/10.36987/jpbn.v10i1.5229>

### INTRODUCTION

Indonesia has one of the highest levels of biodiversity in the world, surpassing only Brazil, Colombia, China, and Mexico. The number of documented plant species exceeds 20,000, with flowering species comprising 25% of the total (Kusmana & Hikmat, 2015). Seventy percent or more of the population residing in agricultural and forested regions of developing countries is believed to utilize a variety of plants on a daily basis (Raut et al., 2021). When this biodiversity is effectively processed and utilized, it has the potential to generate substantial economic value for life (Widjaja et al., 2014). This is due to the fact that it can serve as a source of raw materials for various industries, including cosmetics (ethnocosmetics), pharmaceuticals (ethnomedicine), and food ingredients (ethnofood).

Additionally, these plants serve as animal feed and construction materials (Navia et al., 2020; (Wakhidah et al., 2020). Additionally, it is frequently employed for cultural objectives (Sutrisno et al., 2020).

Ethnomedicine is one application of biodiversity that may possess the capacity to resolve disease issues. In general, ethnomedicine pertains to the examination of the correlation between health and disease and traditional medical beliefs and practices of diverse cultures (Saputri et al., 2022). As a natural response to the threat of illness and disease, humans evolved their biological capabilities for survival and formed diverse adaptation strategies, including culturally influenced medical systems, behavior, and beliefs. The demarcation between health and illness is frequently inconsistent with the criteria established by medical science due to cultural, traditional, or customary influences (Yunarti, 2022).

According to data from the Central Agency of Statistics (BPS 2002), there are three settlements and 43 villages in Kaway XVI Subdistrict. One of the communities residing in Kaway XVI Subdistrict, West Aceh Regency, benefits from the profusion of diverse varieties of medicinal plants. There are numerous types of life-improving plants in Kaway XVI Subdistrict, one of which can be utilized as a traditional remedy for a variety of ailments.

The societal understanding and perception of the connection between the utilization of medicinal plants and the environment constitute a significant component of cultural identity. Culture is shaped by the comfortable dynamics of daily life, which are subsequently passed down through the generations as part of the routines of existence. Oral and written traditions of traditional medicine are transmitted from one generation to the next and can be consulted for information regarding the procedures for using plants to treat a variety of diseases. Plants with medicinal potential are categorized into three groups: those that are regarded as trustworthy and have been utilized by society in the field of medicine; those that contain scientifically or medically proven medicinal compounds; and those that are believed to contain compounds with potential medical applications but lack scientific or medical justification (Jafar & Djollong, 2018).

According to Fanani et al., (2018), the investigation of wild plants utilized in ethnomedicine constitutes an integral component of herbal medicine research, and the identification of medicinal plants is a critical step in the formulation of such remedies to guarantee the accuracy of the plant species employed. Saranani et al., (2021) conducted research in the Regency of Bombana, Poleang Tenggara Subdistrict, Southeast Sulawesi, which identified twenty species of medicinal plants utilized for the treatment of hypertension; the most commonly utilized plant parts are fruits, leaves, rhizome seeds, and herbs. The current state of ethnomedicine research in Aceh is significantly limited. Wijaya et al., (2023), who conducted a study in Langsa City, identified fourteen plant species that are employed in traditional medicine. The leaf comprises 42% of the medicinal plant and 85.7% of the cultivated varieties of plants used for medicinal purposes.

Ethnomedicine-related research has the potential to generate economic benefits for society. This assertion is supported by a study conducted by Syamsuri et al., (2023) in West Pussui Village, Luwo Subdistrict, Polewali Mandar Regency, West Sulawesi Province. The researchers identified a number of economically valuable plants utilized by

the Mandar tribe as traditional medicines. In Pasie Jambu Village, Kaway XVI Subdistrict, Regency West Aceh, this study seeks to identify the plant species utilized, the manner in which they are processed, and the specific plant parts that are utilized.

## **METHOD**

### **Research Location and Time**

The study was carried out between October to November of 2023. The herbal remedy and plant inventory in Pasie Jambu Village, Kaway XVI Subdistrict, West Aceh Regency were maintained by the local community.

### **Materials and Instruments**

The research materials utilized in this study were plants that were considered traditional medicine in the Pasie Jambu Village society. Questionnaires, cameras, voice recorders, laptops, and writing tools comprised the instruments.

### **Data Analysis**

A graph was constructed to present the data collected, which detailed the most commonly utilized plant varieties, their components, functions, and benefits. Information was gathered through qualitative analysis regarding plant types, regional names, parts, and their applications. The objects and situations under investigation were identified or investigated with the assistance of informants or respondents, who were villagers deemed to possess a more comprehensive knowledge regarding the utilization of medicinal plants. Twenty individuals were interviewed; they were deliberately selected through the snowball method (Elfrida et al., 2021). Certain criteria were used to determine the respondents: 1) The inhabitants of Pasie Jambu Village are well-known within the community for their profound understanding of the applications of botanical remedies, as well as their active participation in traditional medical practices; 2) villagers with an extensive knowledge of alternative medicine utilizing medicinal plants and a lengthy tenure in the community; 3) individuals who significantly impact the regional culture of the area; 4) individuals who have undergone or are presently receiving medicinal plant treatment.

Interviews were conducted briefly, trying to understand the respondent's behavior or explanation from the respondent's own perspective. It explained to researchers about a phenomenon that occurs or has occurred in the Pasie Jambu Village society. Furthermore, the researchers recorded and analyzed the plants used by village society in alternative medicine. The taken and recorded data included: names of plant species used, plant parts/organs used, their properties and how they were used by the inhabitants of Pasie Jambu Village.

## **RESULTS AND DISCUSSION**

As shown in Table 1, the findings of a study conducted in Pasir Jambu Village, Kaway XVI Subdistrict, revealed that the local populace utilized 34 medicinal plants. The inhabitants of Pasie Jambu Village hold the belief that the ailments listed on this compilation can be remedied without the need for medical consultation or visitation to a health center. According to (Yathurramadhan, 2020), village societies rely on medicinal plants as an alternative treatment option due to their limited access to modern medicine,

which may be caused by distance, economic constraints, or both. Additionally, the authors note that medicinal plants are readily available and can be utilized without delay. At present, certain specimens of these plants remain in plantation areas, fields, and home gardens. However, interview responses indicate that individuals are extremely concerned that the plants, which are frequently used for medicinal purposes, will become extinct for a variety of reasons and become scarce and difficult to locate. These plants' natural habitats, forests, have been transformed into oil palm plantations. For sustenance, the majority of the inhabitants of Pasié Jambu Village continue to rely on natural resources. Consequences will affect human existence if the forest is destroyed or damaged, particularly in regards to medicinal plants.

**Table 1.** Local and Latin Names of Plants Used as Medicine in Pasié Jambu Village

| No | Local Name            | Latin Name   |
|----|-----------------------|--|
| 1  | American marigold     | <i>Tegetes erecta</i> L.                             |
| 2  | Lime                  | <i>Citrus aurantiifolia</i> (Christm.) Swingle       |
| 3  | Red Ginger            | <i>Zingiber officinale</i> Rosc. Var. Rubrum         |
| 4  | Soursop               | <i>Annona muricata</i> L.                            |
| 5  | Betel                 | <i>Piper betle</i> L.                                |
| 6  | Rambutan              | <i>Nephelium</i> sp.                                 |
| 7  | Curcuma               | <i>Curcuma zanthorrhiza</i> Roxb.                    |
| 8  | Cotton                | <i>Gossypium hirsutum</i> L.                         |
| 9  | Longjack              | <i>Eurycoma longifolia</i> Jack.                     |
| 10 | Siam weed             | <i>Chromolaena odorata</i>                           |
| 11 | Durian                | <i>Durio</i> sp.                                     |
| 12 | Caricature-plant      | <i>Graptophyllum pictum</i> (L.) Griff               |
| 13 | Simpleleaf chastetree | <i>Vitex trifolia</i> L.                             |
| 14 | Lemon Grass           | <i>Cymbopogon nardus</i> L.                          |
| 15 | Bay Leaf              | <i>Syzygium polyanthum</i> (Wight) Walp.             |
| 16 | <i>Sijuk-Sijuk</i>    | <i>Kalanchoe waldheimii</i> Raym. Hamet & H. Perrier |
| 17 | American rope         | <i>Mikania micrantha</i>                             |
| 18 | Castor                | <i>Jatropha curcas</i> L.                            |
| 19 | Red Onion             | <i>Allium cepa</i> L.                                |
| 20 | <i>Kratom</i>         | <i>Mitragyna speciosa</i> Korth.                     |
| 21 | Banana                | <i>Musa</i> sp.                                      |
| 22 | Cilantro              | <i>Coriandrum sativum</i> L.                         |
| 23 | Fern                  | <i>Diplazium esculentum</i>                          |
| 24 | Cutleaf groundcherry  | <i>Physalis angulata</i> L.                          |
| 25 | Coconut tree          | <i>Cocos nucifera</i> L.                             |
| 26 | Mangosteen            | <i>Garcinia × mangostana</i> L.                      |
| 27 | Holy basil            | <i>Ocimum tenuiflorum</i> L.                         |
| 28 | Indian Mulberry       | <i>Morinda citrifolia</i> L.                         |
| 29 | Betel palm            | <i>Areca catechu</i> L.                              |
| 30 | Turmeric              | <i>Curcuma domestica</i> Val.                        |
| 31 | Devil's trumpet       | <i>Datura metel</i> L.                               |
| 32 | Dung weed             | <i>Adenostemma viscosum</i> J.R.Forst. & G.Forst.    |
| 33 | Moringa               | <i>Moringa oleifera</i> Lam                          |
| 34 | Capa                  | <i>Blumea balsamifera</i> (L.) DC                    |

Based on interviews and observations with the inhabitants of Pasié Jambu Village, it has been determined that certain medicinal plants are still discernible in the vicinity of settlements, fields, and gardens. However, certain plants, such as Pudeng items, are

inaccessible due to their location within the forest's interior. The inhabitants of Pasié Jambu Village utilize the following plant parts for medicinal purposes: leaves (62 %), fruit (20 %), rhizomes (9%), roots (3%), tubers (3%), and skins (3 %). 63% of the inhabitants of Pasié Jambu Village utilize the leaves, while the skins, roots, and tubers are utilized the least, each at 3%. This is due to the perception that the leaf portion is more accessible and can be processed more quickly. Additionally, the leaf portion is believed to possess numerous advantages.

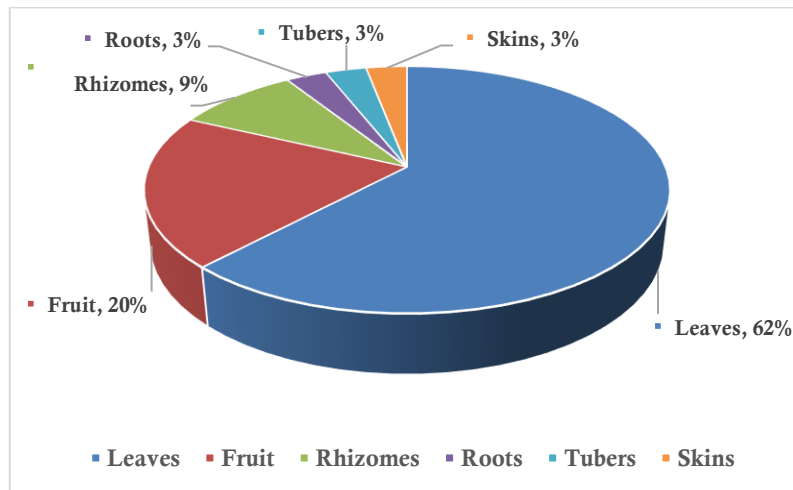


Figure 1. Diagram of Plant Parts Used as Medicinal Plants

The inhabitants of Pasié Jambu Village use plants as medicine by pounding them (52%), smearing them (18%), boiling them (15%), wiping them (12%), and chewing them (3%). The most common use of plants as medicine by the inhabitants of Pasié Jambu Village is by pounding them at 50% and the least frequently done is by chewing at 5%.

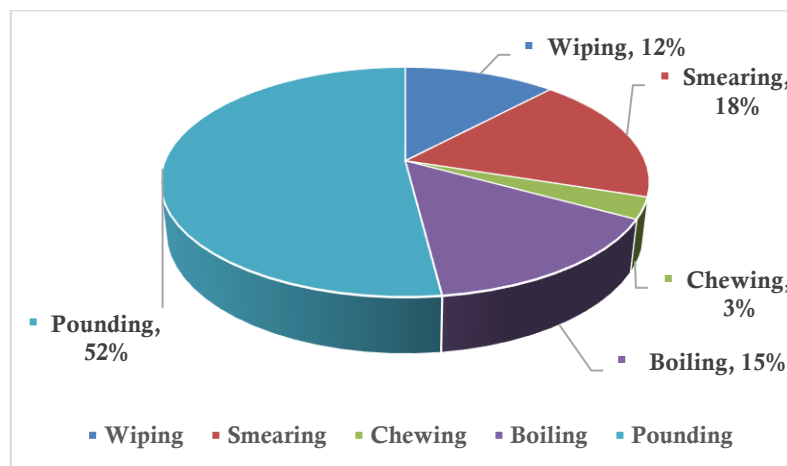


Figure 2. Diagram of how to use plants used as medicine

The majority of inhabitants' livelihoods in Pasié Jambu Village are farming and gardening, therefore the inhabitants often find plants that have medicinal properties in

fields, plantations or in former farm areas. However, some inhabitants cultivate these plants so that they are easy to obtain when needed.

**Table 2.** Local and Latin Names of Plants along with Cured Diseases

| No | Local Name            | Latin Name                                      | Cured Disease |
|----|-----------------------|---|---------------|
| 1  | American marigold     | <i>Tegetes erecta</i> L.                        | Stomachache   |
| 2  | Lime                  | <i>Citrus aurantiifolia</i> (Christm.) Swingle  | Cough         |
| 3  | Red Ginger            | <i>Zingiber officinale</i> Rosc. Var. Rubrum    | Catch a Cold  |
| 4  | Soursop               | <i>Annona muricata</i> L.                       | Catch a Cold  |
| 5  | Betel                 | <i>Piper betle</i> L.                           | Fever         |
| 6  | Rambutan              | <i>Nephelium</i> sp.                            | Fever         |
| 7  | Curcuma               | <i>Curcuma zanthorrhiza</i> Roxb.               | Gastric Acid  |
| 8  | Cotton                | <i>Gossypium hirsutum</i> L.                    | Fever         |
| 9  | Longjack              | <i>Eurycoma longifolia</i> Jack.                | Hypotension   |
| 10 | Siam weed Durian      | <i>Chromolaena odorata</i>                      | Gastric Acid  |
| 11 | Caricature-plant      | <i>Durio</i> sp.                                | Fever         |
| 12 | Simpleleaf chastetree | <i>Graptophyllum pictum</i> (L.) Griff          | Catch a Cold  |
| 13 | LemonGrass            | <i>Vitex trifolia</i> L.                        | Headache      |
| 14 | Bayleaf               | <i>Cymbopogon nardus</i> L.                     | Cough         |
| 15 | Sijuk-Sijuk           | <i>Syzygium polyanthum</i> (Wight) Walp.        | Catch a Cold  |
| 16 | American rope         | <i>Kalanchoe waldheimii</i>                     | Fever         |
| 17 | Castor                | <i>Micania micrhanta</i>                        | Internal Heat |
| 18 | Red Union             | <i>Jatropha curcas</i> L.                       | Stomachache   |
| 19 | <i>Kratom</i>         | <i>Allium cepa</i> L.                           | Fever         |
| 20 | Banana                | <i>Mitragyna speciosa</i> Korth.                | Cough         |
| 21 | Cilantro              | <i>Musa</i> sp.                                 | Headache      |
| 22 | Fern                  | <i>Coriandrum sativum</i> L.                    | Headache      |
| 23 | Cutleaf               | <i>Diplazium esculentum</i>                     | Diarrhea      |
| 24 | groundcherry          | <i>Physalis angulata</i> L.                     | Diabetes      |
| 25 | Coconut tree          | <i>Cocos nucifera</i> L.                        | Diarrhea      |
| 26 | Mangosteen            | <i>Garcinia × mangostana</i> L.                 | Diabetes      |
| 27 | Holy basil            | <i>Ocimum tenuiflorum</i> L.                    | Stomachache   |
| 28 | Indian Mulberry       | <i>Morinda citrifolia</i> L.                    | Catch a Cold  |
| 29 | Betel palm            | <i>Areca catechu</i> L.                         | Fever         |
| 30 | Turmeric              | <i>Curcuma domestica</i> Val.                   | Catch a Cold  |
| 31 | Devil's trumpet       | <i>Datura metel</i> L.                          | Toothache     |
| 32 | Dung weed             | <i>Adenostemma viscosum</i> J.R.Forst.&G.Forst. | Cough         |
| 33 | Moringa               | <i>Moringa oleifera</i> Lam.                    | Toothache     |
| 34 | Capa                  | <i>Blumea balsamifera</i> (L.) DC               | Catch a Cold  |

Medicinal plants used by the inhabitants of Pasie Jambu Village, based on interviews and observations, show that some plants are able to treat more than one disease, such as the areca nut plant (*Areca catechu* L.). Apart from being able to relieve fever, this plant is also used to treat vaginal discharge symptoms that occur in women. This is in accordance with research by Sari et al., (2016) who found that the *Areca catechu* plant can be used as a medicine for vaginal discharge in women. Another one, is also found in the soursop plant (*Annona muricata*) which can be used as a medicine for chills, high fever and even symptoms of cholesterol. This is also in line with the findings of Silalahi (2020), who stated that the *Annona muricata* plant is commonly used by village communities to lower blood cholesterol levels.



The *Vitex trifolia* L. plant is often found by the public to be used as an alternative medicine if they feel dizzy or have severe headaches. This was also found in research conducted by Ogata et al., (1995) who stated that similar plants are able to reduce high blood pressure thereby reducing symptoms of headaches, dizziness and so on. The livelihood of the inhabitants in Pasie Jambu Village is farming and farming, therefore, the inhabitants often find plants that have medicinal properties in the fields, plantations or in former farm areas. However, the inhabitants also cultivate these plants so that they are easy to obtain when needed.

## CONCLUSION

A total of 34 plant species were discovered that are commonly utilized as traditional remedies in Pasie Jambu Village, Kaway XVI Subdistrict, West Aceh Regency. These remedies are said to alleviate ailments including fever, diarrhea, diabetes, and more. The leaves constitute the predominant component utilized by the inhabitants of Pasie Jambu Village, comprising 62% of the total. In addition to being readily available and processable, the villagers hold the belief that the leaves contain specific substances that soothe pain or ailment. Each plant species possesses unique characteristics, including the plant parts utilized by humans. At a rate of 3%, the components of the plant that are seldom utilized by the inhabitants of Pasie Jambu Village are the tubers, skin, and roots. Society uses the roots, skin, and tubers infrequently due to the preconceived notion that the medicinal plants present in villages impart their properties exclusively in the fruit. 52% of the societal composition of the Pasie Jambu Village is composed of individuals who employ the pounding technique.

## REFERENCES

- Elfrida, Tarigan, N. S., & Suwardi, A. B. (2021). Ethnobotanical study of medicinal plants used by community in jambur labu village, East Aceh, Indonesia. *Biodiversitas*, 22(7), 2893–2900. <https://doi.org/10.13057/biodiv/d220741>
- Fanani, Z., Etikasari, R dan Nugraheni, T. P. (2018). Analisis Makroskopik dan Mikroskopik Herba Sangketan (*Achyranthes aspera*). *The 8th University Research Colloquium 2018*, 1(1), 256–262.
- Hasni Yathurramadhan, S. yanti. (2020). Penyuluhan penggunaan obat tradisional di desa sigulang. *Indonesia OneSearch*, 8(1), 4–5. <https://journal.ipts.ac.id/index.php/ED/article/view/1495>
- Jafar, J., & Djollong, andi fitriani. (2018). Tumbuhan Liar Berkhasiat Obat Di Dataran Tinggi Kabupaten Enrekang Medicine Medicinal Wild Plant in The High Land Enrekang Regency. *Jurnal Galung Tropika*, 7(3), 198–203.
- Kusmana, C., & Hikmat, A. (2015). The biodiversity of flora in Indonesia. *Journal of Natural Resources and Environmental*, 5(2), 187–198. <https://doi.org/https://doi.org/10.19081/jpsl.5.2.187>

- Navia, Z. I., Audira, D., Affah, N., Turnip, K., Nuraini, & Suwardi, A. B. (2020). Ethnobotanical investigation of spice and condiment plants used by the taming tribe in Aceh, Indonesia. *Biodiversitas*, 21(10), 4467–4473. <https://doi.org/10.13057/biodiv/d211001>
- Ogata, Y., Kasaharea, Y., & Iwasaki, T. (1995). *Medicine Herb Index Indonesia, Second Edition*. Eisai Indonesia.
- Raut, K. P., Deshpande, A. S., & Malode, S. N. (2021). Exploration and Assessment of Wild Vegetables of Jalgaon Jamod, Dist. Buldhana (Maharashtra). *International Journal of Scientific Research in Science and Technology*, 9(6), 232–242. <https://doi.org/10.32628/IJSRST219642>
- Saputri, D. A., Millah, A. U., Winandari, O. P., Pawhestri, S. W., & Baika, F. D. (2022). Etnomedisin pada Pengobatan Tradisional Masyarakat Suku Jawa di Kecamatan Buay Madang Timur Kabupaten OKU Timur Sumatera Selatan. *Jurnal Medika Malahayati*, 6(1), 265–275. <https://doi.org/10.33024/jmm.v6i1.6020>
- Saranani, S., Yuliasi, W. O., Isrul, M., Farmasi, P. S., & Waluya, U. M. (2021). *Studi Etnomedisin Tanaman Berkhasiat Obat Hipertensi di Kecamatan Poleang Tenggara Kabupaten Bombana Sulawesi Tenggara meskipun pengobatan secara modern cukup baik mengenai keanekaragaman*. 7(1), 60–82.
- Sari, L. M., Suyatna, F. D., Subita, G. P., & Auerkari, E. I. (2016). Acute dermal toxicity study of *Areca catechu* Linn. Extract in sprague-dawley rats. *Asian Journal of Pharmaceutical and Clinical Research*, 9(July), 209–211. <https://doi.org/10.22159/ajpcr.2016.v9s3.14462>
- Silalahi, M. (2020). *Annona muricata* (Kajian Pemanfaatan Dan Bioaktivitasnya Dalam Kesehatan). *Husada Mahakam: Jurnal Kesehatan*, 10(1), 52. <https://doi.org/10.35963/hmjk.v10i1.203>
- Sutrisno, I. H., Akob, B., Navia, Z. I., Nuraini, & Suwardi, A. B. (2020). Documentation of ritual plants used among the aceh tribe in Peureulak, East Aceh District, Indonesia. *Biodiversitas*, 21(11), 4990–4998. <https://doi.org/10.13057/biodiv/d211102>
- Syamsuri, S., Hafsa, H., & Alang, H. (2023). Nilai Ekonomi Tumbuhan (Kajian Etnomedisin) Oleh Masyarakat Adat Mandar Di Kecamatan Luyo, Kabupaten Polewali Mandar. *Bio-Lectura: Jurnal Pendidikan Biologi*, 10(1), 1–10. <https://doi.org/10.31849/bl.v10i1.12662>
- Wakhidah, A. Z., Chikmawati, T., & Purwanto, Y. (2020). Homegarden ethnobotany of two saibatin villages in Lampung, Indonesia: Species diversity, uses, and values. *Forest and Society*, 4(2), 338–357. <https://doi.org/10.24259/fs.v4i2.9720>
- Widjaja, E., Rahayuningsih, Y., & Rahajoe, J. (2014). *Kekinian keanekaragaman hayati Indonesia*. LIPI Press.
- Wijaya, M. D., Indraningrat, A. A. G., & Idawati, I. (2023). Edukasi Pemanfaatan Tanaman Obat Keluarga (TOGA) dan Pelatihan Pasar Modal pada Sekaa Teruna Widya Bhakti Banjar Pegok, Kelurahan Sesetan, Denpasar Selatan. *Warmadewa*



*Minesterium Medical Journal, 2(2), 86–90.*

Yunarti, Y. (2022). Rasionalisasi Sakit dan Penyakit dalam Konstelasi Budaya Minangkabau (Kajian Etnomedisin di Agam dan Tanah Datar). *Antropologi Indonesia, 35(1), 17–29.*

**How To Cite This Article, with APA style :**

Syam, N., Fadillah, M., & Rahma, C. (2024). Medicinal Plant Inventory in Pasie Jambu Village, Kaway XVI Subdistrict, West Aceh Regency. *Jurnal Pembelajaran dan Biologi Nukleus, 10(1), 161-169.* <https://doi.org/10.36987/jpbn.v10i1.5229>

- Conflict of interest : The authors declare that they have no conflicts of interest.
- Author contributions : All authors contributed to the study's conception and design. Material preparation, data collection and analysis were performed by all authors. The first draft of the manuscript was submitted by [**Mardi Fadillah**]. All authors contributed on previous version and revisions process of the manuscript. All authors read and approved the final manuscript.