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Quantitative Ethnopharmacological Prioritization of Sundanese Medicinal Plants in Cisarua, West Java

Prioritisasi Etnofarmakologi Kuantitatif Tanaman Obat Sunda di Cisarua, Jawa Barat

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ABSTRACT

Ethnomedicinal knowledge can guide the selection of herbal candidates, but quantitative evidence from West Java is limited. This cross-sectional survey documented medicinal plant use among 31 Sundanese informants in three villages of Cisarua. Semi-structured interviews yielded 224 therapeutic use reports covering 66 taxa from 30 families, from which use-report, citation, fidelity, consensus, family-use, and Jaccard indices were calculated. Knowledge varied widely between informants (median four taxa; range 1–22). Leaves (60.3%), decoction (62.9%), and oral administration (72.8%) predominated. *Plantago major* L. had the highest use-report count (23), use value (0.742), and relative frequency of citation (0.516), whereas *Ageratum conyzoides* L. and *Musa* spp. showed high fidelity for lacerations (80.0% and 81.8%, respectively). Lacerations/cuts formed the largest indication category (39 reports; ICF = 0.789). Taken together, salience, specificity, and report volume identified wound-related taxa as priorities for authentication, standardized extraction, pharmacological validation, and safety assessment.

Kata kunci:

Etnofarmakologi
Pengetahuan Sunda
Perawatan luka
Prioritisasi herbal
Tanaman obat

ABSTRAK

Pengetahuan etnomedisin dapat menjadi dasar pemilihan kandidat herbal, tetapi bukti kuantitatif dari Jawa Barat masih terbatas. Survei potong lintang ini mendokumentasikan penggunaan tanaman obat oleh 31 informan Sunda di tiga desa di Cisarua. Wawancara semi-terstruktur menghasilkan 224 laporan penggunaan terapeutik dari 66 takson dan 30 famili, yang dianalisis dengan indeks use report, sitasi, fidelitas, konsensus, family use, dan Jaccard. Pengetahuan antarinforman sangat bervariasi (median 4 takson; rentang 1–22). Daun (60,3%), perebusan (62,9%), dan pemberian oral (72,8%) paling dominan. *Plantago major* L. memiliki use report (23), use value (0,742), dan relative frequency of citation (0,516) tertinggi, sedangkan *Ageratum conyzoides* L. dan *Musa* spp. menunjukkan fidelity level tinggi untuk luka sayat (masing-masing 80,0% dan 81,8%). Luka sayat merupakan kategori indikasi dengan laporan terbanyak (39 laporan; ICF = 0,789). Kombinasi salience, spesifisitas, dan volume laporan menempatkan takson untuk luka sebagai prioritas autentikasi, standardisasi ekstraksi, validasi farmakologi, dan evaluasi keamanan.

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1. INTRODUCTION

Traditional medicinal knowledge is a biocultural resource and a practical starting point for identifying plants that merit pharmaceutical investigation (Fabricant & Farnsworth, 2001; Weckerle et al., 2018). By recording repeated community use, plant parts, preparation methods, and specific indications, ethnomedicinal surveys help to narrow extensive botanical inventories down to a short list of candidates (Andrade-Cetto & Heinrich, 2011; Weckerle et al., 2018). Frequent or consensual use, however, reflects cultural salience and perceived benefit; it does not by itself establish pharmacological efficacy, clinical effectiveness, or safety (Andrade-Cetto & Heinrich, 2011; Moreira et al., 2014). Turning such knowledge into evidence-based herbal products therefore requires botanical authentication, chemical characterization and standardization of the relevant preparation, experimental pharmacological validation, and toxicological assessment, followed by clinical evaluation wherever therapeutic claims are intended (Ekor, 2014; Heinrich et al., 2020).

Indonesia combines high floristic diversity with many local medical traditions, yet its ethnobotanical record is geographically and methodologically uneven. A recent national synthesis identified recurrent weaknesses in voucher deposition, taxonomic verification, and reporting at the level of individual use reports (Febriyanti et al., 2026). In West Java, medicinal plant use has been documented in Sundanese communities in Pangalengan, Subang, and Sumedang (Kodir et al., 2017; Mulyani et al., 2020; Riany et al., 2024), and broader studies have described the role of homegardens and the uneven retention of plant knowledge in rural Sundanese villages (Iskandar et al., 2023; Soemarwoto & Iskandar, 2021). Most of these studies, however, were designed as inventories or applied only one or two quantitative measures. Cisarua Sub-district in West Bandung Regency has not yet been examined with an integrated, indication-level framework that combines report volume, citation breadth, therapeutic specificity, informant consensus, family-level importance, and similarity between villages.

Cisarua is an agrarian highland area in which crops, home-garden plants, spices, and spontaneous vegetation are within easy reach of farming households. This proximity may shape a distinctly local herbal repertoire, particularly for minor wounds, digestive and musculoskeletal complaints, and self-managed chronic conditions. Quantitative indices capture different, non-interchangeable aspects of such a repertoire: use reports (UR) and the use value (UV) reflect report volume, the relative frequency of citation (RFC) the breadth of recognition, the fidelity level (FL) indication specificity, the informant consensus factor (ICF) agreement within an indication, the family use value (FUV) family-level use, and the Jaccard index compositional overlap between villages. Read together, these measures reduce the risk of prioritizing a taxon merely because a small denominator, a single-species family, or a sparsely represented indication has inflated one of its values (Faruque et al., 2018; Jadid et al., 2020; Reang et al., 2023).

This study aimed to document the medicinal plants used by Sundanese communities in three villages of Cisarua; to characterize the plant parts, preparation methods, routes of administration, and sources of knowledge; to quantify taxon- and indication-level ethnobotanical indices; and to prioritize candidates for subsequent herbal medicine research. Its principal contribution is a transparent prioritization strategy that triangulates salience, specificity, and report volume instead of ranking candidates on a single index. Because the analysis was conducted at the informant–taxon–indication level, the resulting priorities can be carried forward as testable candidates for authentication, phytochemical characterization, pharmacological evaluation, and safety assessment.

2. METHODS

2.1. Study Design, Setting, Ethical Approval, and Field Authorization

An exploratory cross-sectional ethnobotanical survey was conducted in the villages of Cipada, Pasirlangu, and Tugumukti, Cisarua Sub-district, West Bandung Regency, Indonesia (**Figure 1**). Cisarua is a highland sub-district in which agriculture and horticulture are the main household livelihoods (Badan Pusat Statistik Kabupaten Bandung Barat, 2020).

The study ran from September 2025 to January 2026 in two consecutive phases. From September to December 2025, the investigators developed the protocol and questionnaire, made preliminary orientation visits, and obtained administrative and community permissions; no interviews or specimen collections took place in this phase. The protocol was then approved by the Research Ethics Committee of Universitas Padjadjaran (No. 69/UN6.KEP/EC/2026, 13 January 2026), and field authorization was granted by the National Unity and Political Agency of West Bandung Regency (No. 000.9.2/005/Bakesbangpol/2026). All interviews, plant collections, and photographic documentation were carried out in January 2026, and every participant gave written informed consent before the interview.

2.2. Informants and Ethnomedicinal Data Collection

Thirty-one adult Sundanese informants aged 20–80 years were recruited by non-probability convenience sampling, based on availability, residence in the study area, and the ability to describe at least one medicinal use of a plant. Semi-structured interviews followed a guide covering local plant names, therapeutic indications or perceived complaints, plant parts, preparation, route or method of administration, source of knowledge, and how the plant was obtained. These fields were recorded together for each reported use, so that the cleaned dataset could be organized at the informant–taxon–indication level. Passive observation and photographs were used to clarify preparation and use practices and to support botanical documentation. Because recruitment was not probabilistic and saturation was not assessed, the sample was treated as an exploratory documentation cohort rather than a representative population sample.

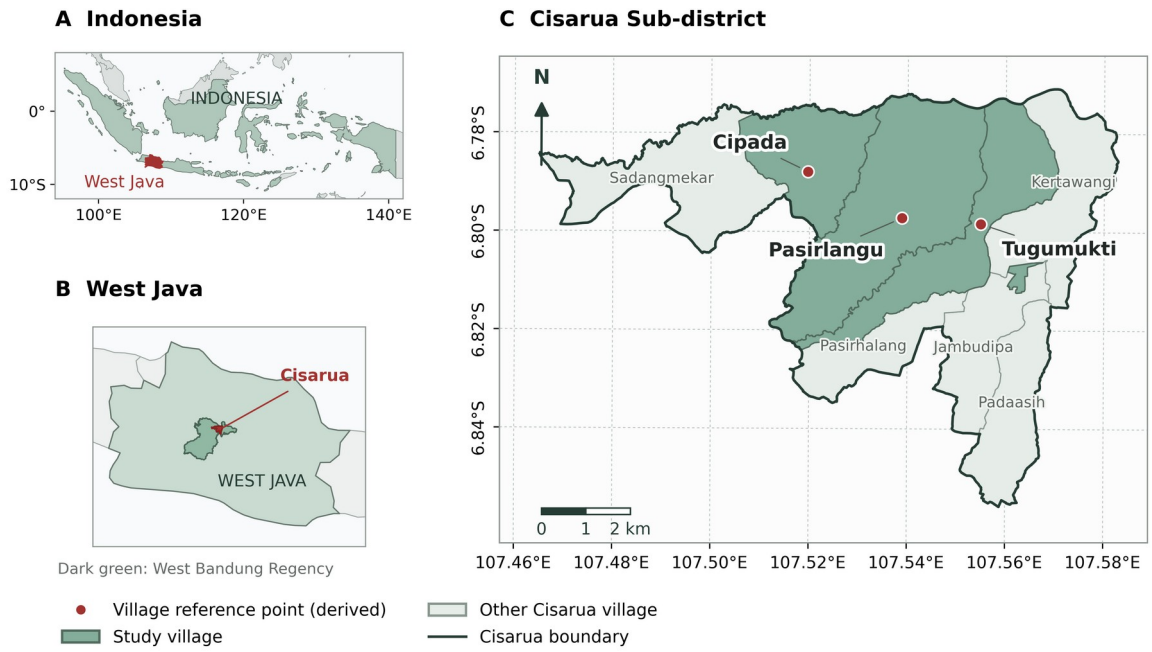


Figure 1. Location of the study villages in Cisarua Sub-district, West Bandung Regency, West Java, Indonesia. (A) Indonesia, with West Java highlighted. (B) West Java, showing West Bandung Regency and Cisarua Sub-district. (C) Village boundaries within Cisarua; the study villages Cipada, Pasirlangu, and Tugumukti are shaded green; points mark village reference locations derived from the village polygons, not field GPS measurements. Local boundaries: BPS/HDX COD-AB 2020 (CC BY 3.0 IGO), adapted; locator boundaries: Natural Earth (public domain).

2.3. Botanical Collection, Voucher Deposition, and Taxonomic Harmonization

Representative specimens were collected *in situ*, pressed, dried, and prepared as herbarium specimens following the Indonesian guidelines for medicinal plant collection (Badan Penelitian dan Pengembangan Kesehatan, 2011). Identification was based on macroscopic characters, field photographs, and taxonomic literature, and was reviewed by a plant taxonomist. Forty-one specimens were formally deposited in the Herbarium Jatinangoriense, Universitas Padjadjaran, under Plant Identification Sheet No. 654/LBM/IT/VII/2026 (serial numbers 860–900; **Table S1**), and 26 of them correspond to analytical taxa. The remaining 40 analytical taxa were retained as ethnomedicinal records without a deposited voucher; absence of a deposited voucher did not itself exclude an otherwise eligible therapeutic record. Record UR042 was retained as an ethnomedicinal report provisionally assigned to *Hieracium umbellatum* L. Its botanical identity and vernacular name remain unresolved because no voucher was deposited and the source labels were inconsistent. Its inclusion does not establish a confirmed occurrence of this species in Java. The deposited priority specimens included *Plantago major* L. (serial no. 867; collection no. KI-00-Far) and *Ageratum conyzoides* L. (serial no. 871; collection no. BB-8-Far). The deposited banana specimen was identified as *Musa* × *paradisiaca* L. (serial no. 884; collection no. Fodps-43); because the interview records did not support species-level assignment for every banana use report, the analytical taxon was conservatively kept as *Musa* spp. Scientific names, author citations, and families were harmonized with Plants of the World Online (Royal Botanic Gardens, Kew, 2026).

2.4. Data Management and Indication Classification

A use report (UR) was defined as a unique combination of informant, taxon, and therapeutic indication. The consolidated data were checked for duplicate combinations, non-medicinal uses, spelling variants, and taxonomic synonyms. Two culinary reports and one adhesive-use report were excluded from the ethnobotanical set. Three non-therapeutic reports were kept in the cleaned file for transparency but excluded from the medicinal indices, leaving 224 analytical therapeutic URs across 66 taxa. Informant identities were replaced with numerical codes. Local complaint terms were mapped to the International Classification of Primary Care, Second Edition (ICPC-2), to standardize indication categories without treating them as medically confirmed diagnoses (WONCA International Classification Committee, 2005).

2.5. Quantitative Ethnopharmacological Indices and Data Analysis

Complementary indices were used to capture the intensity of use, breadth of citation, therapeutic specificity, agreement among informants, family-level importance, and similarity in taxon composition between villages. Because the analytical unit was the informant–taxon–indication combination, one informant could contribute several use reports for the same taxon when the plant was cited for different indications.

For each taxon, UR was the total number of therapeutic use reports across all informants and indications. A high UR can result from

citation by many informants, from use for several indications, or from both; UR was therefore read as a measure of use intensity and versatility, not of the number of people who knew the plant.

The use value (UV) was calculated as follows:

$$UV = (\Sigma_{i=1}^{N} U_i) / N$$

where Ui is the number of therapeutic reports contributed by informant i for the taxon and N is the total number of informants (31). In this dataset the numerator equals the taxon's UR, so UV = UR/31. Unlike RFC, UV retains multiple uses reported by the same informant, so a plant cited by few informants for several indications can still have a relatively high UV.

The cultural importance index (CI) sums the contribution of a taxon across all therapeutic categories:

$$CI = \Sigma_{u=1}^{NC} (UR_u / N)$$

where URu is the number of reports for the taxon in therapeutic category u, NC is the number of categories represented, and N is 31. Because no additional informant-level normalization was applied within categories, the total CI was numerically equal to UV in this dataset. Accordingly, UV and total CI conveyed the same quantitative information and were not treated as independent evidence in prioritization. Therapeutic breadth was assessed from the number and distribution of ICPC-2 categories.

The relative frequency of citation (RFC) measured how widely a taxon was known among the informants:

$$RFC = FC / N$$

where FC (frequency of citation) is the number of distinct informants who cited the taxon for at least one therapeutic use, and N is 31. Each informant was counted once per taxon regardless of the number of indications, so RFC ranges from 0 (cited by no informants) to 1 (cited by all).

The fidelity level (FL) expressed how consistently a taxon was associated with its dominant indication:

$$FL = (N_p / FC) \times 100\%$$

where Np is the number of distinct informants who cited the taxon for its dominant ICPC-2 indication, defined as the category cited by the largest number of informants, and FC is as defined above. A high FL indicates that most informants who knew the plant associated it with the same principal use, whereas a low FL indicates use for several indications without a dominant one. FL was always read together with FC and Np, because a value of 100% based on one or two informants carries little weight.

The family use value (FUV) summarized the average importance of the taxa recorded in each family:

$$FUV = (\Sigma_{s=1}^{ns} UV_s) / n_s$$

where UVs is the use value of taxon s and ns is the number of medicinal taxa in the family. FUV is thus the mean taxon UV, not the total number of reports contributed by the family. Because a family represented by a single taxon inherits that taxon's UV, family size was reported alongside FUV (Faruque et al., 2018; Ojha et al., 2025; Reang et al., 2023).

Indications reported in local or colloquial terms were mapped to ICPC-2 categories before consensus was calculated, so that reports referring to clinically similar complaints could be aggregated. The informant consensus factor (ICF) was calculated for each ICPC-2 indication as follows:

$$ICF = (N_{ur} - N_t) / (N_{ur} - 1)$$

where Nur is the total number of therapeutic use reports for the indication and Nt is the number of distinct taxa used for it. ICF was calculated only for indications with more than one report. Values near 1 indicate that many reports are concentrated on few taxa (strong agreement), and values near 0 indicate that reports are spread over many taxa. ICF is an indication-level index and was not assigned to individual species; it is reported with Nur and Nt because a high value can arise from a small category.

Similarity in medicinal taxon composition between Cipada, Pasirlangu, and Tugumukti was assessed with the pairwise Jaccard index (JI):

$$JI = c / (a + b - c) \times 100\%$$

where a and b are the numbers of medicinal taxa recorded in the two villages and c is the number of taxa they share; a + b − c is therefore the number of unique taxa in either village. JI is based on presence or absence only and ignores differences in citation frequency or intensity of use. JI values were derived from the audited village-level field summaries, because reliable village identifiers were not preserved for every record in the final consolidated workbook; they therefore describe verified aggregate composition by village and were used descriptively, without significance testing.

All analyses were descriptive. For each informant, the numbers of therapeutic URs, distinct taxa, families, and ICPC-2 indications were summarized as mean, median, interquartile range (IQR), and range. A salience–specificity plot was drawn for taxa cited by at least three informants (FC ≥ 3) with at least four therapeutic reports (UR ≥ 4), with RFC and FL on the two axes and bubble area proportional to UR. The thresholds RFC > 5/31 and FL ≥ 70% served only to visualize a high-salience/high-specificity cluster and were not treated as validated decision cut-offs. No hypothesis tests, confidence intervals, regression models, or prevalence estimates were calculated, because recruitment was non-probabilistic, the sample was limited to 31 informants, and demographic and village variables were not reliably linked to every record. The results therefore describe the documented sample and support research prioritization, not population inference. The revised numerical summaries were checked against the cleaned records using Python 3.12, and the study-area map was prepared with GeoPandas, Shapely, pyproj, and Matplotlib.

3. RESULTS AND DISCUSSION

3.1. Informant Profile and Heterogeneity of Medicinal Plant Knowledge

Most of the 31 informants had completed primary school and worked as farmers, and men slightly outnumbered women (**Table 1**).

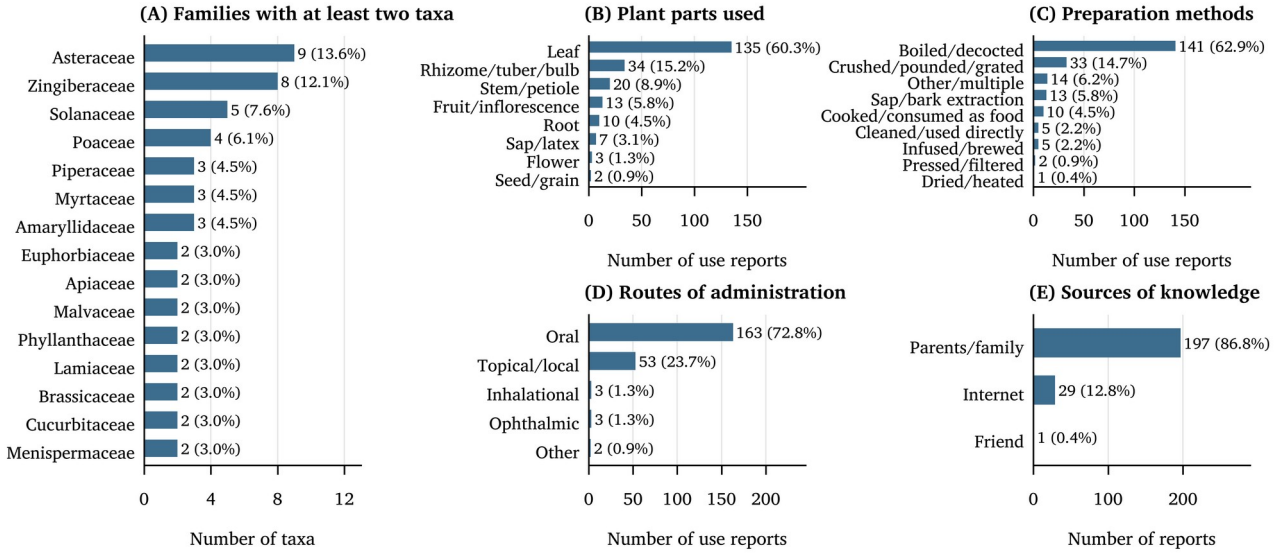


Figure 3. Structure of medicinal plant use. (A) Number of taxa in families represented by at least two taxa; 15 further families had one taxon each. (B) Plant parts used. (C) Preparation methods. (D) Routes of administration. (E) Sources of knowledge. Panels B–D are based on 224 therapeutic use reports and panel E on 227 non-culinary reports; bar labels give counts and percentages.

Table 1. Characteristics of the study informants (N = 31)

Variable	Category	n	%
Village	Tugumukti	10	32.3
	Pasirlangu	11	35.5
	Cipada	10	32.3
Sex	Female	13	41.9
	Male	18	58.1
Age (years)	20–30	3	9.7
	31–40	9	29.0
	41–50	7	22.6
	51–60	9	29.0
	61–70	2	6.5
	71–80	1	3.2
Education	No formal schooling	2	6.5
	Primary school	23	74.2
	Junior high school	2	6.5
	Senior high school	4	12.9
Occupation	Homemaker	6	19.4
	Farmer	23	74.2
	Daily labourer	1	3.2
	Shopkeeper	1	3.2

Knowledge of medicinal plants varied markedly between informants (Figure 2). Each informant contributed a median of 5 therapeutic URs (IQR 3–8; range 1–29) and cited a median of 4 taxa (IQR 2–6.5; range 1–22), 4 families (IQR 2–6; range 1–16), and 3 ICPC-2 indications (IQR 2–6; range 1–15) (Supplementary File 1).

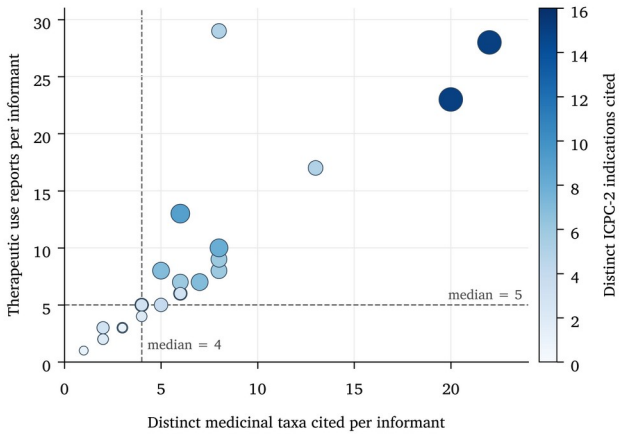


Figure 2. Informant-level breadth and intensity of medicinal plant knowledge. Each point represents one anonymized informant; overlapping points may represent more than one informant. Point size and shading indicate the number of distinct ICPC-2 indications cited, and dashed lines mark the sample medians.

3.2. Taxonomic Composition, Preparation, and Knowledge Transmission

The analytical dataset contained 224 therapeutic URs representing 66 taxa from 30 families (Table S2). Asteraceae and Zingiberaceae contributed the most taxa; leaves, decoction, and oral administration dominated plant use; and knowledge was acquired mainly from parents and family (Figure 3).

3.3. Cultural Salience, Therapeutic Specificity, and Taxon Prioritization

P. major ranked first on UR, UV/CI, and RFC, followed by *A. conyzoides* and *Musa* spp. (Table 2). *P. major* combined broad recognition with use for many indications, but its FL of 50.0% shows that only half of the informants who cited it named laceration as its main use.

Table 2. Taxa with the highest use-report counts (UR ≥ 6) and their ethnobotanical indices

Taxon (local name)	Family	UR	FC	RFC	UV/CI	Indications (n)	Dominant indication (ICPC-2)	FL (%)
P. major (Ki urat)	Plantaginaceae	23	16	0.516	0.742	9	Laceration/cut (S18)	50.0
A. conyzoides (Babadotan)	Asteraceae	18	15	0.484	0.581	5	Laceration/cut (S18)	80.0
Musa spp. (Pisang)	Musaceae	12	11	0.355	0.387	4	Laceration/cut (S18)	81.8
Cymbopogon citratus (DC.) Stapf (Sereh)	Poaceae	10	5	0.161	0.323	8	Dyspepsia/indigestion (D07)	40.0
Persea americana Mill. (Alpukat)	Lauraceae	8	4	0.129	0.258	6	Heart disease other (K84)	75.0
Manihot esculenta Crantz (Sampeu)	Euphorbiaceae	7	6	0.194	0.226	3	Hypertension uncomplicated (K86)	50.0
Psidium guajava L. (Jambu batu)	Myrtaceae	7	5	0.161	0.226	3	Diarrhoea (D11)	100.0
Zingiber officinale Roscoe var. rubrum Theilade (Jahe merah)	Zingiberaceae	7	5	0.161	0.226	4	Feeling ill (A05)	60.0
Annona muricata L. (Sirsak)	Annonaceae	7	4	0.129	0.226	5	Heart disease other (K84)	75.0
Imperata cylindrica (L.) Raeusch. (Eurih; Alang-alang)	Poaceae	7	4	0.129	0.226	7	Dyspepsia/indigestion (D07)	25.0
Piper ornatum N.E.Br. (Sirih merah)	Piperaceae	7	3	0.097	0.226	6	Dyspepsia/indigestion (D07)	66.7
Curcuma longa L. (Koneng; Kunyit)	Zingiberaceae	6	5	0.161	0.194	2	Dyspepsia/indigestion (D07)	100.0
Piper betle L. (Sirih hijau)	Piperaceae	6	5	0.161	0.194	5	Uncompl labour/delivery livebirth (W90)	40.0
Curcuma zedoaria (Christm.) Roscoe (Koneng bodas)	Zingiberaceae	6	3	0.097	0.194	5	Dyspepsia/indigestion (D07)	66.7

Note. UR, use report; FC, frequency of citation; RFC, relative frequency of citation; UV, use value; CI, cultural importance; FL, fidelity level. The total CI was numerically equal to UV in the present data structure. Taxonomic authorities follow Plants of the World Online (Royal Botanic Gardens, Kew, 2026).

The salience–specificity plot separates widespread recognition from indication fidelity (**Figure 4**). *A. conyzoides* and *Musa* spp. fell in the high-salience/high-specificity cluster for laceration care, whereas *P. major* was highly salient but less indication-specific. *P. guajava* and *C. longa* had FL = 100% but lay exactly on the excluded RFC boundary (5/31). *C. odorata* also had FL = 100% for laceration/cut, but its RFC of 4/31 was below the salience threshold.

At family level, the highest FUVs belonged to single-taxon families (Plantaginaceae, Musaceae, and Lauraceae), which simply inherit the UV of their only taxon. Among families with at least three taxa, Piperaceae ranked highest, ahead of Poaceae, Zingiberaceae, and Asteraceae, the last two contributing the largest numbers of use reports (**Table 3**).

3.4. Indication-Level Consensus and Plant–Indication Structure

Laceration/cut (S18) was the largest indication category and also showed the highest consensus (**Table 4**).

In the plant–indication matrix, laceration reports were concentrated in *A. conyzoides*, *Musa* spp., and *P. major* (**Figure 5**).

3.5. Village-Level Similarity in Medicinal Plant Repertoires

Pairwise Jaccard similarity was highest between Pasirlangu and Tugumukti (34.7%), followed by Cipada and Tugumukti (30.9%) and Cipada and Pasirlangu (20.0%). Even the most similar pair of villages therefore shared only about one-third of their combined taxa.

3.6. Comparative Context and Translational Priorities

Medicinal plant knowledge in Cisarua was unevenly distributed between informants and remained largely household-based. The predominance of leaves, decoction, and oral use matches patterns reported from other Indonesian communities, including Tengger, Bangbayang, Langgudu, Tempurejo, and Mirit, where accessible plant parts and simple water-based preparations are common (Albar et al., 2025; Bunga et al., 2025; Jadid et al., 2020; Riany et al., 2024; Widodo et al., 2024). Family-based transmission and the role of homegardens likewise agree with Sundanese studies showing the persistence of orally transmitted plant knowledge and household self-treatment (Iskandar et al., 2023; Soemarwoto & Iskandar, 2021), and with comparable community knowledge systems elsewhere in Asia (Tangjang et al., 2025).

Taken together, the indices identified the wound-related cluster as the most robust indication-centred priority, because it combined the largest report base, a high ICF, and repeated selection of the same three taxa. Ranking by UV or FL alone would not have produced this result. The Bangbayang study in Sumedang, for example, reported a maximum UV of 0.20 and an FL of 100% for turmeric, but interpreted these values at taxon level without linking them to indication-level report volume and consensus (Riany et al., 2024).

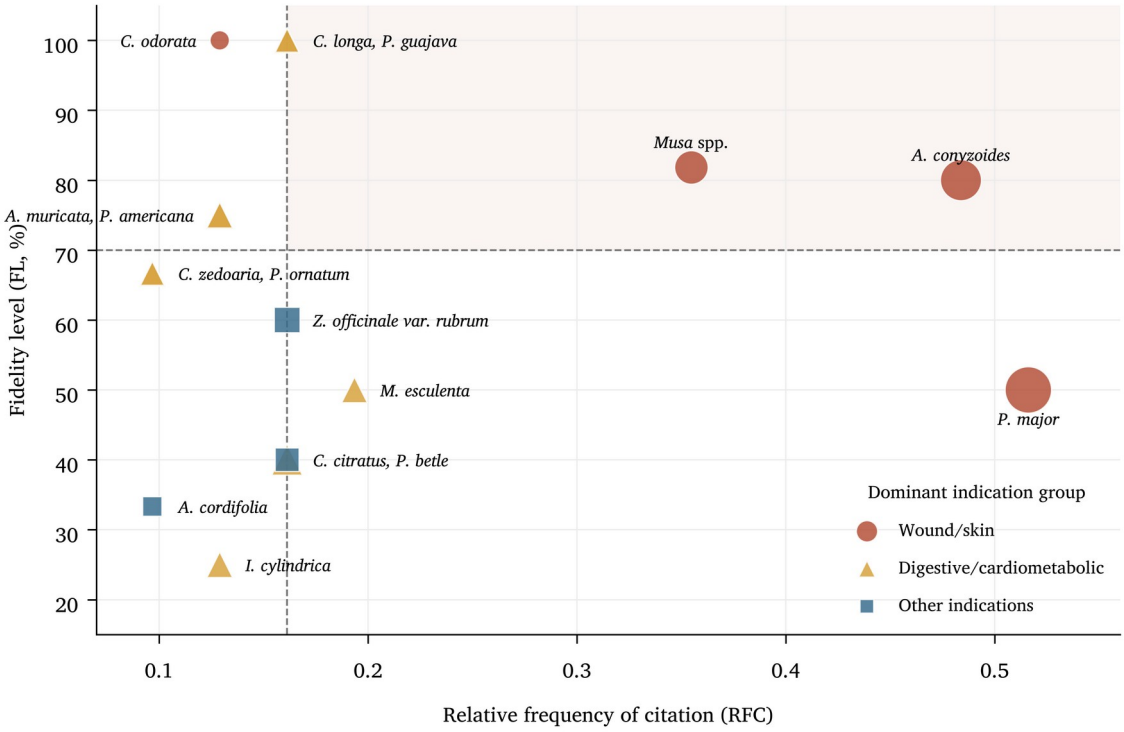


Figure 4. Cultural salience versus therapeutic specificity for taxa cited by at least three informants (FC ≥ 3) with at least four therapeutic use reports (UR ≥ 4). Bubble area is proportional to UR.

Table 3. Family use values and the underlying report structure

Family	Number of taxa	Total UR	Σ taxon UV	FUV	Family	Number of taxa	Total UR	Σ taxon UV	FUV
Plantaginaceae	1	23	0.742	0.742	Phyllanthaceae	2	4	0.129	0.065
Musaceae	1	12	0.387	0.387	Caricaceae	1	2	0.065	0.065
Lauraceae	1	8	0.258	0.258	Rhamnaceae	1	2	0.065	0.065
Annonaceae	1	7	0.226	0.226	Urticaceae	1	2	0.065	0.065
Piperaceae	3	17	0.548	0.183	Amaryllidaceae	3	5	0.161	0.054
Poaceae	4	20	0.645	0.161	Lamiaceae	2	3	0.097	0.048
Euphorbiaceae	2	9	0.290	0.145	Solanaceae	5	7	0.226	0.045
Basellaceae	1	4	0.129	0.129	Brassicaceae	2	2	0.065	0.032
Cyperaceae	1	4	0.129	0.129	Cucurbitaceae	2	2	0.065	0.032
Moringaceae	1	4	0.129	0.129	Menispermaceae	2	2	0.065	0.032
Zingiberaceae	8	30	0.968	0.121	Acanthaceae	1	1	0.032	0.032
Asteraceae	9	33	1.065	0.118	Asphodelaceae	1	1	0.032	0.032
Myrtaceae	3	9	0.290	0.097	Meliaceae	1	1	0.032	0.032
Apiaceae	2	4	0.129	0.065	Moraceae	1	1	0.032	0.032
Malvaceae	2	4	0.129	0.065	Punicaceae	1	1	0.032	0.032

Note. UR, use report; UV, use value; FUV, family use value. Families are ordered by descending FUV. FUV is the arithmetic mean of taxon-level UV values, so a family represented by one taxon has an FUV equal to the UV of that taxon. Complete taxon-level calculations are provided in Supplementary File 1.

Quantitative studies elsewhere have likewise shown that high UV, FUV, or FL values identify culturally important plants without, on their own, establishing a translational research priority (Faruque et al., 2018; Jadid et al., 2020; Reang et al., 2023). In Cisarua, combining RFC, FL, UR, and ICF therefore provides a more explicit bridge from documentation to candidate selection (**Table 5**). Quantitative ethnobotanical indices have likewise been used to prioritize traditionally reported wound-healing plants in southern India (Shanmugam et al., 2021). A scoping review of Indonesian wound-healing plants further supports the need to connect ethnomedicinal records with preparation-specific chemical and biological evidence (Swastini et al., 2025).

Table 4. Leading ICPC-2 indication categories and their consensus structure

ICPC-2	Indication	Nur	Nt	ICF	Leading taxon	Leading Np	Share (%)
S18	Laceration/cut	39	9	0.789	*A. conyzoides*	12	30.8
D07	Dyspepsia/indigestion	30	18	0.414	*C. longa*	5	16.7
K84	Heart disease other	18	13	0.294	*A. muricata*	3	16.7
K86	Hypertension uncomplicated	14	10	0.308	*M. esculenta*	3	21.4
T92	Gout	11	9	0.200	*P. major*	3	27.3
A03	Fever	8	6	0.286	*P. major*	2	25.0
L88	Rheumatoid/seropositive arthritis	8	8	0.000	*Capsicum annuum* L.	1	12.5
U99	Urinary disease other (incl. chronic kidney disease)	8	8	0.000	*Cyperus rotundus* L.	1	12.5
L79	Sprain/strain of joint NOS	7	3	0.667	*P. major*	4	57.1

Note. Nur, number of therapeutic use reports; Nt, number of distinct taxa; Np, number of informants citing the leading taxon for the indication. ICF values should be interpreted together with Nur and Nt; values for all 44 categories are given in **Table S3**.

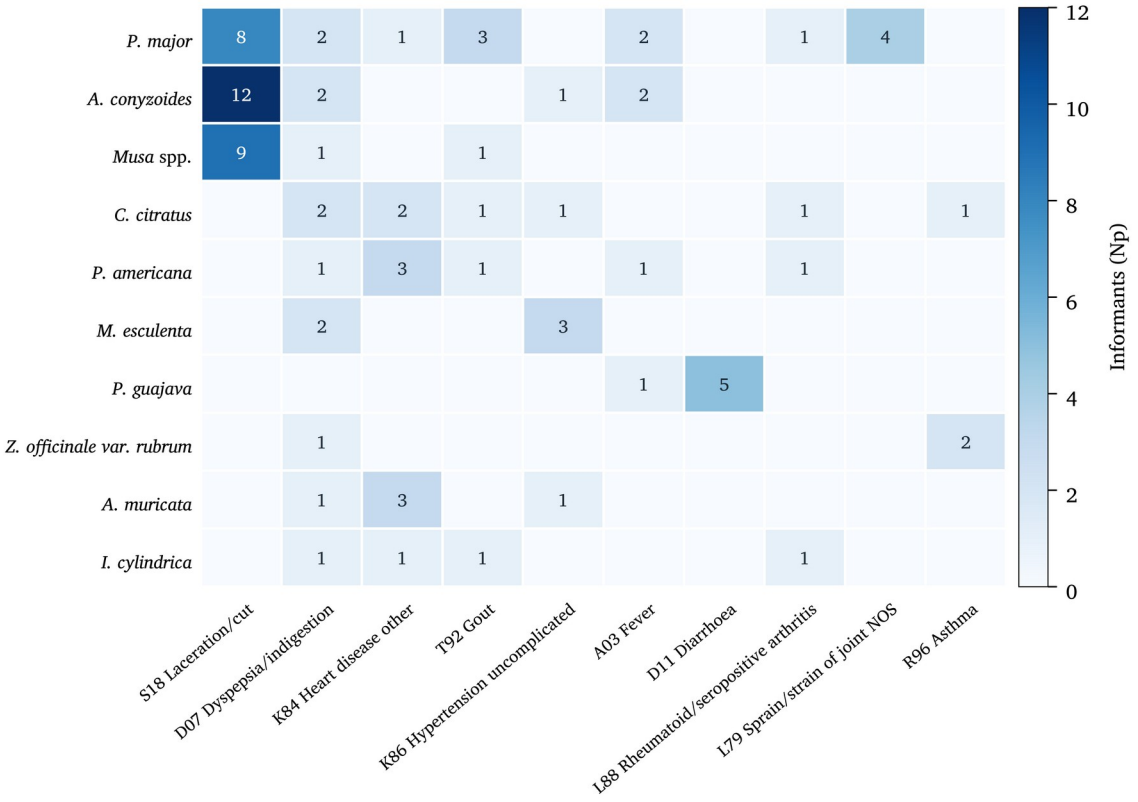


Figure 5. Plant–indication matrix for the ten taxa with the highest use-report counts and the ten leading ICPC-2 indications within this subset. Cell values and colour intensity represent numbers of distinct informants (Np); cells without numbers indicate zero.

P. major was the most salient and versatile taxon, and its wound use was supported by eight informants. Clinical studies of standardized topical *P. major* preparations have reported improved healing of pressure and diabetic foot ulcers, which makes further, locally relevant work plausible (Ghanadian et al., 2024). Those formulations should not, however, be extrapolated directly, because the preparations described in Cisarua may differ in solvent, concentration, and dose; the local material should first be authenticated and the reported preparation characterized chemically before efficacy is tested. Experimental studies have also shown antimicrobial and other biomedical activities of *P. major* extracts, adding to the case for preparation-specific chemical and biological validation (Zhakipbekov et al., 2023).

A. conyzoides combined a high RFC with 80.0% fidelity for laceration care. Its medicinal use has also been documented in other Sundanese settings, including Cihanjawar in West Java (Raihandhany et al., 2023), and an experimental study from Bandung reported improved histopathological wound-healing parameters after topical application of the leaf extract in diabetic rats (Yudhantoro et al., 2019). Development of this species nevertheless requires explicit safety characterization: pyrrolizidine alkaloids have been quantified in Agerati Conyzoidis Herba by UPLC-MS/MS (Zan et al., 2021), so chemical screening and route-specific toxicological assessment are essential before any formulation work.

Table 5. Translational interpretation of the wound-related priority taxa

Taxon	Pharmacological alignment	Safety gap and recommended next step
P. major	Iridoids, phenolic compounds, and polysaccharides with reported antimicrobial and anti-inflammatory activities provide wound-related plausibility (Najafian et al., 2018; Zhakipbekov et al., 2023).	Local preparations varied, and clinical evidence was limited. Authenticate voucher material, reproduce the local topical preparation, establish a chemical fingerprint, and evaluate antimicrobial, wound-closure, dermal-irritation, and repeated-dose safety endpoints.
A. conyzoides	A review summarizes antifungal activities of *A. conyzoides* and its secondary metabolites (Chahal et al., 2021); experimental wound-related evidence is provided by a topical leaf-extract study in diabetic rats (Yudhantoro et al., 2019).	Potential pyrrolizidine alkaloids require explicit screening. Quantify safety-relevant constituents, compare local aqueous and topical preparations with standardized extracts, and conduct route-specific dermal toxicity studies.
Musa spp.	Stem-sap use is consistent with the wound-healing evidence reported for selected *Musa species* and cultivars (Budi et al., 2022; Cheng et al., 2024).	Identification remained at the genus level, and sap composition may vary. Resolve species/cultivar and voucher identity, characterize sap chemistry, and evaluate hemostatic, antimicrobial, wound-closure, and dermal-safety endpoints.

Musa spp. showed the highest laceration fidelity of the three leading wound taxa (81.8%). Experimental studies have reported wound-healing activity of *M. paradisiaca* preparations in diabetic rats, and an Indonesian *in vitro* and *in vivo* study found wound-related effects of a stem-sap gel prepared from *M. paradisiaca* var. *sapientum* (Budi et al., 2022; Cheng et al., 2024). These findings support biological plausibility but do not resolve the taxonomic uncertainty of the field records, so species- or cultivar-level authentication must precede chemical standardization or any pharmacological generalization.

Other culturally salient taxa should be evaluated according to how well the local indication, the preparation, and the available evidence align. Cardiovascular labels such as “heart complaint” were community symptom categories rather than confirmed diagnoses, and uses for chronic conditions were not accompanied by standardized information on dose, duration, concomitant medicines, or adverse events. These records are therefore better treated as hypotheses for future ethnopharmacological studies than as evidence of effectiveness.

3.7. Strengths, Limitations, and Implications

The strengths of the study are documented ethical oversight; complementary taxon-, indication-, family-, and village-level indices; ICPC-2 mapping; an audit at the informant–taxon–indication level; transparent reporting of denominators; and a supplementary workbook containing the cleaned records and analytical outputs. The prioritization framework is deliberately conservative: a taxon becomes a candidate only when salience, specificity, and report volume converge, and candidate status denotes a research priority, not evidence of clinical efficacy.

The study also has limitations: convenience sampling, a small sample without a formal saturation assessment, possible recall and social-desirability bias, incomplete linkage of demographic and village variables to individual records, and formal voucher deposition for 26 of the 66 analytical taxa. Dose, frequency, duration, adverse events, and concurrent use of modern medicines were not standardized, and some local complaint terms could only be approximated in ICPC-2. The findings therefore characterize the interviewed knowledge holders and cannot be used to estimate prevalence in the wider Cisarua population.

4. CONCLUSION

Thirty-one Sundanese informants in three Cisarua villages provided 224 therapeutic use reports covering 66 medicinal taxa from 30 families. *P. major* was the most culturally salient and versatile taxon, whereas *A. conyzoides* and *Musa* spp. combined substantial citation with high fidelity for laceration care. Laceration/cut was the best-supported indication, because a large report base (39 UR) coincided with high consensus (ICF = 0.789) and repeated use of the same three taxa. By integrating report volume, citation breadth, indication specificity, and consensus, the framework avoids prioritization based on a single high index and turns local knowledge into a transparent research agenda. The immediate priorities are complete botanical authentication, phytochemical standardization of the relevant preparations, pharmacological validation, and explicit safety assessment of the wound-related candidates.

AUTHOR CONTRIBUTIONS

Conceptualization, R.M.F. and D.L.; methodology, R.M.F. and D.L.; validation, R.M.F., D.L., and B.I.; formal analysis, R.M.F. and M.M.; investigation, M.M.; botanical determination and voucher authentication, B.I.; resources, B.I.; data curation, M.M. and R.M.F.; writing—original draft preparation, M.M.; writing—review and editing, R.M.F., D.L., and B.I.; visualization, R.M.F.; supervision, R.M.F. and D.L.; project administration, M.M. All authors have read and agreed to the published version of the manuscript.

INSTITUTIONAL REVIEW BOARD STATEMENT

The study was conducted in accordance with the Declaration of Helsinki and approved by the Research Ethics Committee of Universitas Padjadjaran (No. 69/UN6.KEP/EC/2026, 13 January 2026). Field authorization was granted by the National Unity and Political Agency of West Bandung Regency (No. 000.9.2/005/Bakesbangpol/2026). The protocol was

reviewed by this committee because the corresponding author and the research supervisor are affiliated with Universitas Padjadjaran, while the fieldwork formed part of an undergraduate research project at Universitas Muhammadiyah Bandung.

INFORMED CONSENT STATEMENT

Written informed consent was obtained from all participants involved in the study. No directly identifiable participant information is reported.

DATA AVAILABILITY STATEMENT

The anonymized use-report dataset, 66-taxon inventory, informant-level descriptive metrics, indication- and family-level calculations, salience–specificity data, Jaccard summaries, quality-control log, and data underlying **Figures 2–5** are provided in Supplementary File 1, available with this article on the journal website, and its core tables are reproduced as **Tables S1–S3** in the Supplementary Materials at the end of this article; the authors' deposit of the dataset is at Figshare (https://doi.org/10.6084/m9.figshare.34487244).

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

ROLE OF FUNDERS

The funders had no role in the design of the study; in the collection, analysis, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

DECLARATION OF GENERATIVE ARTIFICIAL INTELLIGENCE (AI) USE

During manuscript preparation, the authors used large language models (Claude Opus and ChatGPT) to assist with English-language refinement, organization, formatting, reference checks, data consistency checks, and GIS figure preparation. The authors reviewed and edited the complete manuscript and independently verified the dataset, calculations, references, results, and scientific interpretations. The authors take full responsibility for the integrity and originality of the submitted work.

REFERENCES

Albar, H., Juhriah, & Santosa, S. (2025). Ethnobotany of medicinal plants by the community in Langgudu Sub-district, Bima District, West Nusa Tenggara, Indonesia. *Biodiversitas, 26*(1), 315–325. https://doi.org/10.13057/biodiv/d260131

Andrade-Cetto, A., & Heinrich, M. (2011). From the field into the lab: Useful approaches to selecting species based on local knowledge. *Frontiers in Pharmacology, 2*, Article 20. https://doi.org/10.3389/fphar.2011.00020

Badan Penelitian dan Pengembangan Kesehatan. (2011). *Pedoman umum panen dan pascapanen tanaman obat*. Kementerian Kesehatan Republik Indonesia.

Badan Pusat Statistik Kabupaten Bandung Barat. (2020). *Kecamatan Cisarua dalam angka 2020*. BPS Kabupaten Bandung Barat.

Budi, H. S., Anitasari, S., Ulfa, N. M., Juliastuti, W. S., Aljunaid, M., Ramadan, D. E., Muzari, K., & Shen, Y.-K. (2022). Topical medicine potency of *Musa paradisiaca* var. *sapientum* (L.) Kuntze as oral gel for wound healing: An *in vitro*, *in vivo* study. *European Journal of Dentistry, 16*(4), 848–855. https://doi.org/10.1055/s-0041-1740226

Bunga, C. D., Rianawati, L., Nurkhayati, N., Azizah, B. R., Yuliastuti, F., Lutfiyati, H., & Azzahra, A. L. (2025). Studi etnomedisin: Analisa potensi pemanfaatan tumbuhan obat tradisional di Desa Tempurejo. *Jurnal Mandala Pharmacon Indonesia, 11*(1), 91–109. https://doi.org/10.35311/jmpi.v11i1.760

Chahal, R., Nanda, A., Akkol, E. K., Sobarzo-Sánchez, E., Arya, A., Kaushik, D., Dutt, R., Bhardwaj, R., Rahman, M. H., & Mittal, V. (2021). *Ageratum conyzoides* L. and its secondary metabolites in the management of different fungal pathogens. Molecules, 26(10), 2933. https://doi.org/10.3390/molecules26102933

Cheng, Y.-Z., Liu, I.-M., Cheng, J.-T., Lin, B.-S., & Liu, F. (2024). Wound healing is promoted by *Musa paradisiaca* (banana) extract in diabetic rats. Archives of Medical Science, 20(2), 632–640. https://doi.org/10.5114/aoms.2020.92344

Ekor, M. (2014). The growing use of herbal medicines: Issues relating to adverse reactions and challenges in monitoring safety. *Frontiers in Pharmacology, 4*, Article 177. https://doi.org/10.3389/fphar.2013.00177

Fabricant, D. S., & Farnsworth, N. R. (2001). The value of plants used in traditional medicine for drug discovery. *Environmental Health Perspectives, 109*(Suppl. 1), 69–75. https://doi.org/10.1289/ehp.01109s169

Faruque, M. O., Uddin, S. B., Barlow, J. W., Hu, S., Dong, S., Cai, Q., Li, X., & Hu, X. (2018). Quantitative ethnobotany of medicinal plants used by indigenous communities in the Bandarban District of Bangladesh. *Frontiers in Pharmacology, 9*, 40. https://doi.org/10.3389/fphar.2018.00040

Febriyanti, R. M., Ramadhania, Z. M., Tjitraresmi, A., Indradi, R. B., Maisyarah, I. T., Maundu, P. M., Muhaimin, & Sujarwo, W. (2026). A systematic review of ethnobotanical studies in

Indonesia: Diversity and cultural patterns of medicinal plant use. *Journal of Ethnobiology and Ethnomedicine, 22*(1), 42. https://doi.org/10.1186/s13002-026-00879-4

Ghanadian, M., Soltani, R., Homayouni, A., Khorvash, F., Mohammadi Jouabadi, S., & Abdollahzadeh, M. (2024). The effect of *Plantago major* hydroalcoholic extract on the healing of diabetic foot and pressure ulcers: A randomized open-label controlled clinical trial. *International Journal of Lower Extremity Wounds, 23*(3), 475–481. https://doi.org/10.1177/15347346211070723

Heinrich, M., Appendino, G., Efferth, T., Fürst, R., Izzo, A. A., Kayser, O., Pezzuto, J. M., & Viljoen, A. (2020). Best practice in research – Overcoming common challenges in phytopharmacological research. *Journal of Ethnopharmacology, 246*, Article 112230. https://doi.org/10.1016/j.jep.2019.112230

Iskandar, B. S., Suryana, Y., Mulyanto, D., Iskandar, J., & Gunawan, R. (2023). Ethnomedicinal aspects of Sundanese traditional homegarden: A case study in rural Sumedang, West Java, Indonesia. *Journal of Tropical Ethnobiology, 6*(1), 57–78. https://doi.org/10.46359/jte.v6i1.167

Jadid, N., Kurniawan, E., Himayani, C. E. S., Andriyani, Prasetyowati, I., Purwani, K. I., Muslihatin, W., Hidayati, D., & Tjahjaningrum, I. T. D. (2020). An ethnobotanical study of medicinal plants used by the Tengger tribe in Ngadisari Village, Indonesia. *PLOS ONE, 15*(7), e0235886. https://doi.org/10.1371/journal.pone.0235886

Kodir, R. A., Moektiwardoyo, M., & Iskandar, Y. (2017). Etnofarmasi dan ulasan bioprospektif tumbuhan obat liar dalam pengobatan tradisional Kampung Adat Cikondang, Kecamatan Pangalengan, Kabupaten Bandung, Jawa Barat. *Farmaka, 15*(1), 26–44. https://jurnal.unpad.ac.id/farmaka/article/view/11487

Moreira, D. L., Teixeira, S. S., Monteiro, M. H. D. A., De-Oliveira, A. C. A. X., & Paumgartten, F. J. R. (2014). Traditional use and safety of herbal medicines. *Revista Brasileira de Farmacognosia, 24*(2), 248–257. https://doi.org/10.1016/j.bjp.2014.03.006

Mulyani, Y., Hasimun, P., & Sumarna, R. (2020). Kajian etnofarmakologi pemanfaatan tanaman obat oleh masyarakat di Kecamatan Dawuan, Kabupaten Subang, Provinsi Jawa Barat. *Jurnal Farmasi Galenika (Galenika Journal of Pharmacy), 6*(1), 37–54. https://doi.org/10.22487/j24428744.2020.v6.i1.13572

Najafian, Y., Hamedi, S. S., Kaboli Farshchi, M., & Feyzabadi, Z. (2018). *Plantago major* in Traditional Persian Medicine and modern phytotherapy: A narrative review. Electronic Physician, 10(2), 6390–6399. https://doi.org/10.19082/6390

Ojha, K., Chandrabala, & Ponnusamy, K. (2025). The intersection of traditional medicine and wetland conservation: An ethnobotanical study of Surha Tal, India. *Natural Resources for Human Health, 5*(4), 532–548. https://doi.org/10.53365/nrfhh/204974

Raihandhany, R., Dwiartama, A., & Ratnasih, R. (2023). A short note on Asteraceae as traditional food and medicinal plants in Cihanjawar Village, Purwakarta Regency, West Java. *3BIO: Journal of Biological Science, Technology and Management, 5*(1), 162–167. https://doi.org/10.5614/3bio.2023.5.1.5

Reang, M., Banik, B., Debbarma, S., & Datta, B. K. (2023). Quantitative assessment of ethnobotanical resources and medicinal plants utilization patterns in Tripura, India. *Journal of Bioresources, 10*(1), 14–24. https://doi.org/10.5281/zenodo.10513730

Riany, A., Permatasari, A. P., Salsabila, N., Nurlena, Rahayu, S. E., & Marcelina, M. (2024). Ethnobotanical study of medicinal plants in Bangbayang Village, Sumedang, West Java. *Journal of Tropical Biodiversity, 4*(2), 89–111. https://doi.org/10.59689/bio.v4i2.213

Royal Botanic Gardens, Kew. (2026). *Plants of the World Online*. Retrieved July 12, 2026, from https://powo.science.kew.org/

Shanmugam, S., Rajagopal, V., Balamurugan, S., Muthupandi, C. P., Eswaran, V. M., Raveendraretnam, K., & Rajendran, K. (2021). Ethnobotanical indices on wound healing medicinal plants in the Arjuna River of Virudhunagar District in Tamil Nadu, Southern India. *Asian Journal of Ethnobiology, 4*(1), 31–36. https://doi.org/10.13057/asianjethnobiol/y040103

Soemarwoto, R., & Iskandar, J. (2021). Plant knowledge richness in the Sundanese upland village: A case study in Sindangsari, West Java, Indonesia. *Biodiversitas, 22*(9), 3722–3735. https://doi.org/10.13057/biodiv/d220916

Swastini, D. A., Martien, R., Fachiroh, J., & Nugroho, A. E. (2025). Ethnopharmacology and bioactive evidence of medicinal plants for wound healing in Indonesia: A scoping review. Journal of Applied Pharmaceutical Science, 15(6), 10–30. https://doi.org/10.7324/JAPS.2025.211952

Tangjang, M., Maletha, A., & Banerjee, K. (2025). Cultural roots of healing: Exploring traditional medicine practices of the Nocte tribe of Arunachal Pradesh. *Indian Journal of Traditional Knowledge, 24*(7), 665–676. https://or.niscpr.res.in/index.php/IJTK/article/download/18003/4556/91668

Weckerle, C. S., de Boer, H. J., Puri, R. K., van Andel, T., Bussmann, R. W., & Leonti, M. (2018). Recommended standards for conducting and reporting ethnopharmacological field studies. *Journal of Ethnopharmacology, 210*, 125–132. https://doi.org/10.1016/j.jep.2017.08.018

Widodo, R. C., Khuluq, M. H., & Handayani, E. W. (2024). Studi etnobotani penggunaan tanaman berkhasiat obat pada masyarakat di Kecamatan Mirit, Kabupaten Kebumen, Jawa Tengah. *Jurnal Farmasi Klinik dan Sains, 4*(2), 29–38. https://doi.org/10.26753/jfks.v4i2.1219

WONCA International Classification Committee. (2005). *ICPC-2-R: International Classification of Primary Care* (2nd ed., rev.). Oxford University Press.

Yudhantoro, L., Hidajat, N. N., Ismiarto, Y. D., & Ismono, D. (2019). Histopathological effects of *Ageratum leaf* extract (*Ageratum conyzoides*) on wound healing acceleration after acute excisional wound on epidermis in type 2 diabetes mellitus model of Sprague Dawley rats (*Rattus norvegicus*).

Majalah Kedokteran Bandung, 51(3), 172–178. https://doi.org/10.15395/mkb.v51n3.1652

Zan, K., Li, Y.-L., Wang, Y., Wang, Z., Jin, H.-Y., Liu, L.-N., & Ma, S.-C. (2021). Risk assessment and determination of six main pyrrolizidine alkaloids in Agerati Conyzoidis Herba by UPLC-MS/MS. *Chinese Journal of Pharmaceutical Analysis, 41*(7), 1169–1175. https://doi.org/10.16155/j.0254-1793.2021.07.08

Zhakipbekov, K., Turgumbayeva, A., Issayeva, R., Kipchakbayeva, A., Kadyrbayeva, G., Tleubayeva, M., Akhayeva, T., Tastambek, K., Sainova, G., Serikbayeva, E., Tolenova, K., Makhatova, B., Anarbayeva, R., Shimirova, Z., & Tileuberdi, Y. (2023). Antimicrobial and other biomedical properties of extracts from *Plantago major*, Plantaginaceae. *Pharmaceuticals, 16*(8), 1092. https://doi.org/10.3390/ph16081092

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Supplementary Materials

Table S1. Voucher specimens deposited in the Herbarium Jatinangoriense (Plant Identification Sheet No. 654/LBM/IT/VII/2026)

SN	Local name	Scientific name on identification sheet	Family	Collection no.	Analytical taxon
860	Korejat	*Hippobroma longiflora* (L.) G.Don	Campanulaceae	Kor-5-Far	—
861	Daun pandan	*Pandanus amaryllifolius* Roxb.	Pandanaceae	Pand-8-Far	—
862	Sirih cina	*Peperomia pellucida* (L.) Kunth	Piperaceae	SC-2-Far	*Peperomia pellucida* (L.) Kunth
863	Jahe merah	*Zingiber officinale* Roscoe	Zingiberaceae	JMe-01-Far	*Zingiber officinale* Roscoe var. *rubrum* Theilade
864	Daun jambu biji	*Psidium guajava* L.	Myrtaceae	JBi-07-Far	*Psidium guajava* L.
865	Daun katuk	*Phyllanthus androgynus* (L.) Chakr. & N.P.Balakr.	Phyllanthaceae	Kat-3-Far	*Sauropus androgynus* (L.) Merr.
866	Ciplukan	*Physalis angulata* L.	Solanaceae	C-1-Far	*Physalis angulata* L.
867	Ki urat	*Plantago major* L.	Plantaginaceae	KI-00-Far	*Plantago major* L.
868	Daun Sirsak	*Annona muricata* L.	Annonaceae	DS-00-Far	*Annona muricata* L.
869	Sereh	*Cymbopogon citratus* (DC.) Stapf	Poaceae	S-5-Far	*Cymbopogon citratus* (DC.) Stapf
870	Kunyit	*Curcuma longa* L.	Zingiberaceae	Kun-4-Far	*Curcuma longa* L.
871	Babadotan	*Ageratum conyzoides* L.	Asteraceae	BB-8-Far	*Ageratum conyzoides* L.
872	Sambiloto	*Andrographis paniculata* (Burm.f.) Wall. ex Nees	Acanthaceae	DS-10-Far	—
873	Panglay	*Zingiber purpureum* subsp. *purpureum*	Zingiberaceae	Pang-1-Far	—
874	Beluntas	*Pluchea indica* (L.) Less	Asteraceae	DPS.0013	—
875	Haramai	*Boehmeria nivea* (L.) Gaudich.	Urticaceae	DPS.0023	*Boehmeria nivea* (L.) Gaudich.
876	Daun sembung	*Blumea balsamifera* (L.) DC.	Asteraceae	DPS.0027	—
877	Pepaya jepang	*Cnidoscolus aconitifolius* (Mill.) I.M.Johnst.	Euphorbiaceae	DPS.0009	*Cnidoscolus aconitifolius* (Mill.) I.M.Johnst.
878	Murbei	*Morus alba* L.	Moraceae	DPS.0010	—
879	Sukun	*Artocarpus altilis* (Parkinson) Fosberg	Moraceae	DPS.0001	*Artocarpus altilis* (Parkinson) Fosberg
880	Ceremai	*Phyllanthus acidus* (L.) Skeels	Phyllanthaceae	DPS.0011	—
881	Bunga Pepaya	*Carica papaya* L.	Caricaceae	DPS.0003	*Carica papaya* L.
882	Sirih Hijau	*Piper betle* L.	Piperaceae	DPS.0004	*Piper betle* L.
883	Daun Ungu	*Graptophyllum pictum* (L.) Griff.	Acanthaceae	DPS.0012	*Graptophyllum pictum* (L.) Griff.
884	Pisang	*Musa* × *paradisiaca* L.	Musaceae	Fodps-43	*Musa* spp.
885	Singkong	*Manihot esculenta* Crantz	Euphorbiaceae	DPS.0019	*Manihot esculenta* Crantz
886	Kelor	*Moringa oleifera* Lam.	Moringaceae	DPS.0021	*Moringa oleifera* Lam.
887	Jawer kotok	*Coleus scutellarioides* (L.) Benth.	Lamiaceae	DPS.0022	*Coleus scutellarioides* (L.) Benth.
888	Daun cingcau	*Cyclea barbata* Miers	Menispermaceae	DPS.0031	—
889	Dadap serep	*Erythrina subumbrans* (Hassk.) Merr.	Fabaceae	DPS.0037	—
890	Kacang Panjang	*Vigna unguiculata* (L.) Walp. subsp. *sesquipedalis* (L.) Verdc.	Fabaceae	Fodps-7	—
891	Kangkung	*Ipomoea aquatica* Forssk.	Convolvulaceae	Fodps-8	—
892	Pare	*Momordica charantia* L.	Cucurbitaceae	Fodps-16	—
893	Wortel	*Daucus carota* L.	Apiaceae	Fodps-17	—
894	Labu siam	*Sicyos edulis* Jacq.	Cucurbitaceae	Fodps-19	*Sechium edule* (Jacq.) Sw.
895	Jahe	*Zingiber officinale* Roscoe	Zingiberaceae	Fodps-20	*Zingiber officinale* Roscoe
896	Bawang merah	*Allium cepa* L.	Amaryllidaceae	Fodps-22	*Allium cepa* L.
897	Bawang putih	*Allium sativum* L.	Amaryllidaceae	Fodps-24	*Allium sativum* L.
898	Bawang daun	*Allium fistulosum* L.	Amaryllidaceae	Fodps-27	*Allium fistulosum* L.
899	Bayam	*Amaranthus hybridus* L.	Amaranthaceae	Fodps-28	—
900	Cabe keriting	*Capsicum annuum* L.	Solanaceae	Fodps-41	*Capsicum annuum* L.

Note. SN, serial number on the identification sheet. Analytical taxon gives the corresponding entry in Table S2; a dash indicates a specimen that is not represented among the 66 analytical taxa.

Table S2. Inventory of the 66 medicinal taxa and their ethnobotanical indices

No.	Scientific name	Local name	Family	Part(s) used	UR	FC	UV	RFC	Dominant indication (ICPC-2)	FL (%)
1	*Plantago major* L.	Ki urat	Plantaginaceae	leaf and root; leaf	23	16	0.742	0.516	Laceration/cut (S18)	50.0
2	*Ageratum conyzoides* L.	Babadotan	Asteraceae	stem/petiole; leaf	18	15	0.581	0.484	Laceration/cut (S18)	80.0
3	*Musa* spp.	Pisang	Musaceae	stem sap; banana inflorescence; fruit; stem; stem sap and banana leaf; stem sap and leaf	12	11	0.387	0.355	Laceration/cut (S18)	81.8
4	*Cymbopogon citratus* (DC.) Stapf	Sereh	Poaceae	stem and leaf	10	5	0.323	0.161	Dyspepsia/indigestion (D07)	40.0
5	*Persea americana* Mill.	Alpukat	Lauraceae	leaf	8	4	0.258	0.129	Heart disease other (K84)	75.0

No.	Scientific name	Local name	Family	Part(s) used	UR	FC	UV	RFC	Dominant indication (ICPC-2)	FL (%)
6	*Manihot esculenta* Crantz	Sampeu	Euphorbiaceae	leaf	7	6	0.226	0.194	Hypertension uncomplicated (K86)	50.0
7	*Psidium guajava* L.	Jambu batu	Myrtaceae	leaf shoot; leaf; fruit seed; young leaf shoot	7	5	0.226	0.161	Diarrhoea (D11)	100.0
8	*Zingiber officinale* Roscoe var. *rubrum* Theilade	Jahe merah	Zingiberaceae	rhizome	7	5	0.226	0.161	Feeling ill (A05)	60.0
9	*Annona muricata* L.	Sirsak	Annonaceae	leaf	7	4	0.226	0.129	Heart disease other (K84)	75.0
10	*Imperata cylindrica* (L.) Raeusch.	Eurih; Alang-alang/eurih	Poaceae	root	7	4	0.226	0.129	Dyspepsia/indigestion (D07)	25.0
11	*Piper ornatum* N.E.Br.	Sirih merah	Piperaceae	leaf	7	3	0.226	0.097	Dyspepsia/indigestion (D07)	66.7
12	*Curcuma longa* L.	Koneng; Kunyit	Zingiberaceae	rhizome	6	5	0.194	0.161	Dyspepsia/indigestion (D07)	100.0
13	*Piper betle* L.	Sirih hijau	Piperaceae	leaf	6	5	0.194	0.161	Uncompl labour/delivery livebirth (W90)	40.0
14	*Curcuma zedoaria* (Christm.) Roscoe	Koneng bodas	Zingiberaceae	rhizome	6	3	0.194	0.097	Dyspepsia/indigestion (D07)	66.7
15	*Chromolaena odorata* (L.) R.M.King & H.Rob.	Kirinyuh	Asteraceae	bark; leaf sap; petiole/stem and leaf; stem sap	4	4	0.129	0.129	Laceration/cut (S18)	100.0
16	*Anredera cordifolia* (Ten.) Steenis	Binahong	Basellaceae	leaf	4	3	0.129	0.097	Leg/thigh symptom/complaint (L14)	33.3
17	*Cyperus rotundus* L.	Rumput teki	Cyperaceae	stem and leaf; leaf; stem; root	4	2	0.129	0.065	Health maintenance/preventive medicine (A98)	50.0
18	*Peperomia pellucida* (L.) Kunth	Sirih cina	Piperaceae	leaf	4	2	0.129	0.065	Concern about appearance (A18)	100.0
19	*Moringa oleifera* Lam.	Kelor	Moringaceae	leaf	4	1	0.129	0.032	Dyspepsia/indigestion (D07)	100.0
20	*Sauropus androgynus* (L.) Merr.	Katuk	Phyllanthaceae	leaf	3	3	0.097	0.097	Breast/lactation symptom/complaint (W19)	100.0
21	*Sonchus arvensis* L.	Tempuyung; Tempuyung/gorejak	Asteraceae	leaf; flower	3	3	0.097	0.097	Eye pain (F01)	66.7
22	*Zingiber montanum* (J.Koenig) Link ex A.Dietr.	Panglai (Bangle); Panglai	Zingiberaceae	rhizome	3	3	0.097	0.097	Dyspepsia/indigestion (D07)	33.3
23	*Allium sativum* L.	Bawang putih	Amaryllidaceae	bulb	3	2	0.097	0.065	Dyspepsia/indigestion (D07)	100.0
24	*Zingiber officinale* Roscoe	Jahe	Zingiberaceae	rhizome	3	2	0.097	0.065	Dyspepsia/indigestion (D07)	100.0
25	*Apium graveolens* L.	Seledri	Apiaceae	leaf; leaf and stem	2	2	0.065	0.065	Gout (T92)	50.0
26	*Boehmeria nivea* (L.) Gaudich.	Haramai	Urticaceae	leaf	2	2	0.065	0.065	Uncompl labour/delivery livebirth (W90)	100.0
27	*Cnidoscolus aconitifolius* (Mill.) I.M.Johnst.	Chaya	Euphorbiaceae	leaf	2	2	0.065	0.065	Hypertension uncomplicated (K86)	50.0
28	*Coleus scutellarioides* (L.) Benth.	Jawer kotok	Lamiaceae	leaf	2	2	0.065	0.065	Laceration/cut (S18)	100.0
29	*Coriandrum sativum* L.	Daun ketumbar; Ketumbar	Apiaceae	leaf	2	2	0.065	0.065	Health maintenance/preventive medicine (A98)	50.0
30	*Erechtites valerianifolius* (Link ex Spreng.) DC.	Sintrong	Asteraceae	leaf	2	2	0.065	0.065	Hypertension uncomplicated (K86)	100.0
31	*Hibiscus tiliaceus* L.	Wera	Malvaceae	leaf	2	2	0.065	0.065	Diabetes non-insulin dependent (T90)	50.0
32	*Oryza sativa* L. (glutinous rice)	Ketan hitam	Poaceae	seed/grain	2	2	0.065	0.065	Sprain/strain of joint NOS (L79)	100.0
33	*Sida rhombifolia* L.	Sadagori	Malvaceae	root	2	2	0.065	0.065	Low back symptom/complaint (L03)	100.0
34	*Smallanthus sonchifolius* (Poepp.) H.Rob.	Jamras; Tanaman insulin/yakon	Asteraceae	leaf	2	2	0.065	0.065	Laceration/cut (S18)	50.0
35	*Solanum betaceum* Cav.	Terong kori	Solanaceae	fruit	2	2	0.065	0.065	Cough (R05)	100.0
36	*Solanum melongena* L.	Terong ungu	Solanaceae	fruit	2	2	0.065	0.065	Heart disease other (K84)	50.0
37	*Ziziphus mauritiana* Lam.	Bidara	Rhamnaceae	leaf	2	2	0.065	0.065	Concern about appearance (A18)	50.0
38	*Alpinia galanga* (L.) Willd.	Laja	Zingiberaceae	rhizome	2	1	0.065	0.032	Pruritus (S02)	100.0
39	*Carica papaya* L.	Pepaya	Caricaceae	flower and leaf; fruit	2	1	0.065	0.032	Digestive symptom/complaint other (D29)	100.0
40	*Curcuma zanthorrhiza* Roxb.	Kunyit gajah	Zingiberaceae	rhizome	2	1	0.065	0.032	Dyspepsia/indigestion (D07)	100.0

No.	Scientific name	Local name	Family	Part(s) used	UR	FC	UV	RFC	Dominant indication (ICPC-2)	FL (%)
41	*Allium cepa* L.	Bawang merah	Amaryllidaceae	bulb	1	1	0.032	0.032	Fever (A03)	100.0
42	*Allium fistulosum* L.	Bawang daun	Amaryllidaceae	stem and leaf	1	1	0.032	0.032	Visual disturbance other (F05)	100.0
43	*Aloe vera* (L.) Burm.f.	Lidah buaya	Asphodelaceae	stem and leaf	1	1	0.032	0.032	Dermatitis seborrhoeic (S86)	100.0
44	*Artocarpus altilis* (Parkinson) Fosberg	Sukun	Moraceae	leaf	1	1	0.032	0.032	Urinary disease other (incl. chronic kidney disease) (U99)	100.0
45	*Brassica chinensis* var. *parachinensis* (L.H.Bailey) Sinskaya	Sawi hijau	Brassicaceae	leaf and stem	1	1	0.032	0.032	Digestive symptom/complaint other (D29)	100.0
46	*Brassica oleracea* var. *italica* Plenck	Brokoli	Brassicaceae	flower head/bud	1	1	0.032	0.032	Health maintenance/preventive medicine (A98)	100.0
47	*Capsicum annuum* L.	Cabe keriting	Solanaceae	fruit	1	1	0.032	0.032	Rheumatoid/seropositive arthritis (L88)	100.0
48	*Crassocephalum crepidioides* (Benth.) S.Moore	Sintrong	Asteraceae	leaf	1	1	0.032	0.032	Hypertension uncomplicated (K86)	100.0
49	*Cucurbita pepo* L.	Zukini	Cucurbitaceae	fruit	1	1	0.032	0.032	Health maintenance/preventive medicine (A98)	100.0
50	*Erigeron sumatrensis* Retz.	Monyenyen	Asteraceae	stem and leaf	1	1	0.032	0.032	Eye pain (F01)	100.0
51	*Graptophyllum pictum* (L.) Griff.	Handeuleum	Acanthaceae	leaf	1	1	0.032	0.032	Appendicitis (D88)	100.0
52	*Kaempferia galanga* L.	Kencur	Zingiberaceae	rhizome	1	1	0.032	0.032	Sprain/strain of joint NOS (L79)	100.0
53	*Orthosiphon aristatus* (Blume) Miq.	Kumis kucing	Lamiaceae	leaf	1	1	0.032	0.032	Urinary disease other (incl. chronic kidney disease) (U99)	100.0
54	*Phyllanthus niruri* L.	Meniran	Phyllanthaceae	leaf and stem	1	1	0.032	0.032	Urinary disease other (incl. chronic kidney disease) (U99)	100.0
55	*Physalis angulata* L.	Cecenet	Solanaceae	root and stem	1	1	0.032	0.032	Transient cerebral ischaemia (K89)	100.0
56	*Punica granatum* L.	Delima	Punicaceae	fruit	1	1	0.032	0.032	Hypertension uncomplicated (K86)	100.0
57	*Saccharum officinarum* L.	Tebu merah	Poaceae	stem	1	1	0.032	0.032	Health maintenance/preventive medicine (A98)	100.0
58	*Sechium edule* (Jacq.) Sw.	Labu siam	Cucurbitaceae	fruit	1	1	0.032	0.032	Fever (A03)	100.0
59	*Solanum lycopersicum* L.	Tomat	Solanaceae	fruit	1	1	0.032	0.032	Throat symptom/complaint (R21)	100.0
60	*Swietenia mahagoni* (L.) Jacq.	Mahoni	Meliaceae	fruit and leaf	1	1	0.032	0.032	Vertigo/dizziness (N17)	100.0
61	*Syzygium myrtifolium* Walp.	Pucuk merah	Myrtaceae	leaf	1	1	0.032	0.032	Chills (A02)	100.0
62	*Syzygium polyanthum* (Wight) Walp.	Daun salam	Myrtaceae	leaf	1	1	0.032	0.032	Lipid disorder (T93)	100.0
63	*Tinospora cordifolia* (Willd.) Hook.f. & Thomson	Batrawali	Menispermaceae	stem	1	1	0.032	0.032	Lipid disorder (T93)	100.0
64	*Tinospora crispa* (L.) Hook.f. & Thomson	Batrawali	Menispermaceae	leaf	1	1	0.032	0.032	Diabetes non-insulin dependent (T90)	100.0
65	*Vernonia amygdalina* Delile	Dayang	Asteraceae	stem and leaf	1	1	0.032	0.032	Pruritus (S02)	100.0
66	*Hieracium umbellatum* L.[a]	unresolved	Asteraceae	leaf	1	1	0.032	0.032	Diarrhoea (D11)	100.0

Note. UR, use report; FC, frequency of citation; UV, use value; RFC, relative frequency of citation; FL, fidelity level of the dominant indication. Taxa are ordered by descending UR. Scientific names and author citations follow Plants of the World Online (Royal Botanic Gardens, Kew, 2026). [a] Provisional assignment of record UR042; see Section 2.3.

Table S3. Informant consensus factor for all ICPC-2 indication categories

ICPC-2	Indication	Nur	Nt	ICF
S18	Laceration/cut	39	9	0.789
D07	Dyspepsia/indigestion	30	18	0.414
K84	Heart disease other	18	13	0.294
K86	Hypertension uncomplicated	14	10	0.308
T92	Gout	11	9	0.200
A03	Fever	8	6	0.286
L88	Rheumatoid/seropositive arthritis	8	8	0.000
U99	Urinary disease other (incl. chronic kidney disease)	8	8	0.000
L79	Sprain/strain of joint NOS	7	3	0.667
A98	Health maintenance/preventive medicine	7	7	0.000
D11	Diarrhoea	6	2	0.800
W90	Uncompl labour/delivery livebirth	5	3	0.500
R05	Cough	5	4	0.250
S02	Pruritus	5	5	0.000
T90	Diabetes non-insulin dependent	5	5	0.000
F01	Eye pain	4	3	0.333
T93	Lipid disorder	4	4	0.000
A05	Feeling ill	3	1	1.000
W19	Breast/lactation symptom/complaint	3	1	1.000
A18	Concern about appearance	3	2	0.500
L03	Low back symptom/complaint	3	2	0.500
R96	Asthma	3	2	0.500
B80	Iron deficiency anaemia	2	1	1.000
D29	Digestive symptom/complaint other	2	2	0.000
X84	Vaginitis	2	2	0.000
A01	Pain general/multiple sites	1	1	—
A02	Chills	1	1	—
A77	Viral disease other/NOS (incl. dengue)	1	1	—
D87	Stomach function disorder	1	1	—
D88	Appendicitis	1	1	—
F05	Visual disturbance other	1	1	—
K89	Transient cerebral ischaemia	1	1	—
L14	Leg/thigh symptom/complaint	1	1	—
L18	Muscle pain/fibrositis	1	1	—
L76	Fracture: other	1	1	—
N01	Headache	1	1	—
N17	Vertigo/dizziness	1	1	—
R06	Nose bleed/epistaxis	1	1	—
R21	Throat symptom/complaint	1	1	—
S16	Bruise/contusion	1	1	—
S86	Dermatitis seborrhoeic	1	1	—
T03	Loss of appetite	1	1	—
U95	Urinary calculus	1	1	—
W18	Post-partum symptom/complaint other	1	1	—

Note. Nur, number of therapeutic use reports; Nt, number of distinct taxa; ICF, informant consensus factor; —, not defined because Nur = 1. Categories are ordered by descending Nur.