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Medicinally Important Weeds of North-East Assam with Special Reference to Dimoria Block, Kamrup Metropolitan District, Assam

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ABSTRACT

Weeds are commonly regarded as undesirable plants because they occur spontaneously in cultivated fields, fallow lands, roadsides, homesteads, wetlands and other disturbed habitats and compete with crops for available resources. Nevertheless, many weed species have ethnomedicinal, nutritional and ecological importance and are incorporated into traditional healthcare systems. Assam, in North-East India, has a rich tradition of plant-based healthcare. Dimoria Block of Kamrup Metropolitan district is an important setting for examining this knowledge because of its diverse vegetation and multi-ethnic population. This literature-based review synthesizes 27 common or weed-like medicinal plants relevant to Dimoria and the wider Kamrup–Assam region, drawing on original ethnobotanical studies conducted in Dimoria, Sonapur and other parts of Assam. The underlying Dimoria study documented 80 medicinal plant species belonging to 45 families and reported traditional uses for 56 human ailments, while an earlier Sonapur survey documented 40 medicinal plant species. The 27 plants reviewed here are associated with traditional applications for gastrointestinal complaints, fever, respiratory and skin conditions, wounds, urinary and liver disorders, pain and reproductive complaints. The review highlights that the distinction between weeds and medicinal plants depends on ecological and cultural context. Reported traditional uses do not establish clinical efficacy. Taxonomic verification and further phytochemical, pharmacological and toxicological investigations are needed to assess potential benefits and risks.

Keywords: *Pulse Crops; Integrated Nutrient Management; Sustainable Agriculture; Climate Resilience.*

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1. Introduction

Weeds constitute an important component of vegetation associated with human-managed ecosystems. They occur naturally in crop fields, fallow land, roadsides, gardens, grazing areas, wetlands and other disturbed habitats. In conventional agriculture, a weed is generally defined as a plant growing where it is not wanted. Such plants compete with cultivated species for nutrients, water, sunlight and space and may interfere with agricultural operations. Consequently, weed eradication and management are important components of crop production.The ecological and cultural meaning of weeds, however, extends beyond their negative effects on agriculture. A considerable number of plants commonly classified as weeds possess nutritional, medicinal, fodder, cultural and ecological values. Bhattacharjya and Borah (2008) demonstrated this relationship in Assam through an ethnobotanical investigation of crop-field weeds in Nalbari district. Their study documented 32 medicinally important weed species and emphasized that plants removed as agricultural weeds could nevertheless be utilized by rural communities for healthcare. The medicinal importance of weeds is particularly relevant in North-East India

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because the region possesses considerable plant diversity and a long history of indigenous healthcare. Traditional knowledge concerning medicinal plants is often transmitted orally through families, traditional healers, farmers and elderly members of communities. Such knowledge encompasses plant identification, selection of plant parts, preparation methods, dosage and modes of administration. In many rural areas, spontaneous plants have an additional advantage because they are readily accessible and do not require deliberate cultivation.Assam provides numerous examples of this relationship. Das et al. (2006) documented medicinal herbaceous plants used in North-Kamrup for primary healthcare, while Sharma et al. (2012) documented medicinal plants used traditionally against ringworm and related skin infections in Kamrup district. Kotoky and Das (2008) similarly recorded medicinal plants used for liver diseases in several areas of Kamrup, including Dimoria. These investigations demonstrate the depth of plant-based medical knowledge in the region.Dimoria Block provides a particularly appropriate geographical framework for studying medicinal weeds. Sharma and Sharma (2010) carried out an ethnobotanical investigation in Sonapur under Dimoria Development Block and documented 40 plant species belonging to 40 genera and 34 families. The study involved ten traditional healers and recorded plant parts, preparation methods, doses, duration of treatment and therapeutic applications. More recently, Kalita et al. (2024) conducted a detailed ethnobotanical investigation specifically in Dimoria. Their fieldwork, conducted during 2019–2020, involved 140 knowledgeable informants from 12 village councils and included Assamese, Karbi, Bodo, Rabha, Miri, Bengali and Nepali communities. The researchers documented 80 medicinal plant species belonging to 45 families and reported their traditional use against 56 human ailments. Herbs constituted the largest habit group, with 32 species, and leaves were the most frequently used plant part.The present paper therefore examines common weeds and weed-like medicinal plants in the ecological and ethnobotanical context of Dimoria, while incorporating supporting evidence from original studies conducted elsewhere in Kamrup and Assam. The purpose is not to equate traditional use with proven medical efficacy, but to document the medicinal significance of plants that are frequently overlooked because of their weed status.

2. Study Area

Dimoria Block is situated in the south-eastern portion of Kamrup Metropolitan district of Assam. According to Kalita et al. (2024), the area lies approximately between 91°55′ and 92°10′ E longitude and 26°00′ and 26°14′ N latitude. It occupies a landscape characterized by hills, plains, forest patches, shallow water bodies, agricultural areas and settlements. The region experiences high humidity, heavy summer rainfall and a relatively dry winter period. The surrounding forest areas, hillocks, wetlands and agricultural landscapes create a heterogeneous environment capable of supporting diverse herbaceous vegetation.Sonapur forms an important settlement within the Dimoria landscape. Sharma and Sharma (2010) reported that Sonapur is characterized by hill and plain terrain and has historically been inhabited by several ethnic groups, including Karbis, Bodos, Sonowal-Kocharis, Nepalis and Tea-tribe communities. The authors recorded an area of approximately 261.64 km² for Dimoria Development Block in their study and documented the continued use of traditional plant-based remedies despite the availability of modern medical facilities.The ecological characteristics of Dimoria are particularly suitable for the occurrence of weeds. Agricultural fields and fallow areas support species such as *Cynodon dactylon*, *Cyperus rotundus*, *Amaranthus* species and *Commelina benghalensis*, whereas roadsides and disturbed areas provide habitats for *Mimosa pudica*, *Leucas aspera*, *Ageratum conyzoides* and *Euphorbia hirta*. Moist and aquatic habitats support plants such as *Alternanthera philoxeroides*, *Centella asiatica*, *Hydrocotyle javanica* and *Ipomoea aquatica*.The cultural diversity of Dimoria is equally important. Kalita et al. (2024) demonstrated that ethnomedicinal knowledge is distributed across different ethnic communities and that traditional plant knowledge continues to be maintained by experienced household members, farmers, herbal practitioners and elders.

3. Materials and Methods

This manuscript is a literature-based ethnobotanical synthesis, not a new field survey. The core source set comprised original research papers on medicinal plants and weeds from Dimoria, Sonapur, Kamrup and other parts of Assam, including Sharma and Sharma (2010), Bhattacharjya and Borah (2008), Das et al. (2006), Kotoky and Das (2008), Sajem and Gosai (2006), Sharma et al. (2012), Kalita et al. (2024), and Sharma and Das (2025). The literature search was a targeted search of Google Scholar, journal websites and publisher/repository pages using combinations of the terms “medicinal weeds”, “ethnobotany”, “medicinal plants”, “Dimoria”, “Sonapur”, “Kamrup”, “Assam”, and the scientific names of candidate species. References were prioritized when they reported field-based ethnobotanical observations, scientific/local plant names, plant parts or traditional uses, and identifiable study locations. Review articles and general plant portals were used only as supplementary leads, not as substitutes for original ethnobotanical records. Because a complete systematic database search log was not retained, this search should be interpreted as a targeted narrative search rather than a systematic review.

Plants were considered “weed” or “weed-like” when they are commonly associated with agricultural fields, fallow land, roadsides, gardens, wetlands, disturbed habitats or other human-modified environments and are frequently regarded as spontaneous or unwanted vegetation. The term therefore represents an ecological and agricultural category rather than a formal botanical classification.

Species-level evidence was classified by study location. Records attributed to Kalita et al. (2024) are treated as direct evidence from Dimoria; records attributed to Sharma and Sharma (2010) are direct evidence from Sonapur within Dimoria Development Block. Records from Nalbari, North-Kamrup, North Cachar Hills/Jaintia communities, Panikhaiti or other Assam sources are identified as regional supporting evidence rather than being presented as observations made directly in Dimoria. No new field sampling was conducted for this manuscript.

The medicinal uses listed in the table are traditional uses documented in the cited research literature. They are not presented as clinically established indications. This distinction is essential because the Dimoria investigation itself concluded that further research is required to establish the safety and efficacy of the reported medicinal plants. Scientific names and family assignments have been standardized for presentation, but local names and individual use claims should be checked against the original source tables before final journal submission; two entries in the supplied draft relied on portal/database labels rather than a fully specified primary citation.

4. Results

The source literature indicates that medicinal plants form an important part of traditional healthcare in Assam. The Dimoria study by Kalita et al. (2024) documented 80 medicinal plant species belonging to 45 families and recorded traditional uses for 56 human ailments. The earlier Sonapur survey by Sharma and Sharma (2010) documented 40 species used by traditional healers. The present review selects 27 weed or weed-like species from this wider literature; it does not claim that all 27 were collected or independently verified in the field in Dimoria.The earlier Sonapur study provides particularly important local evidence. Sharma and Sharma (2010) surveyed traditional healers between 2005 and 2006 and recorded 40 medicinal plant species. Among these were several plants that can reasonably be considered common weeds or spontaneous field plants, including *Achyranthes aspera*, *Amaranthus spinosus*, *Boerhaavia diffusa*, *Calotropis* spp., *Commelina benghalensis*, *Cynodon dactylon*, *Heliotropium indicum*, *Leucas aspera*, *Physalis minima*, *Tribulus terrestris* and *Xanthium strumarium*.

Sl No.	**Common name**	**Scientific name**	**Local/Assamese name**	**Family**	**Reported medicinal use**	Evidence/source and study location
1	Goat weed	*Ageratum conyzoides* L.	Gendali-bon/Gondhoa-bon	Asteraceae	Leaves traditionally applied to cuts and wounds; ethnomedicinal use for pain and wounds has also been recorded in Assam.	Sajem & Gosai (2006); Bhattacharjya & Borah (2008), Nalbari (North Cachar Hills, Assam)
2	Prickly chaff flower	*Achyranthes aspera* L.	Ubatishath; Ultihoth	Amaranthaceae	Leaf and root preparations traditionally used for labour-related complaints, fever and as an expectorant; other Assam communities use it for skin and respiratory complaints.	Sharma & Sharma (2010); Bhattacharjya & Borah (2008), Nalbari (Sonapur/Dimoria)

3	Alligator weed	*Alternanthera philoxeroides* (Mart.) Griseb.	Paani Matikaduri	Amaranthaceae	Leaves, young shoots and whole plant traditionally used for stomach complaints, diarrhoea, appetite loss, dysentery, asthma and acute cough.	Sharma & Das (2025) (Panikhaiti, Kamrup Metropolitan)
4	Sessile joyweed	*Alternanthera sessilis* (L.) DC.	Mati-kaduri/Matikaduri	Amaranthaceae	Traditionally used as a medicinal and edible herb; associated Assam ethnobotanical literature documents medicinal use of *Alternanthera* species.	Regional Assam evidence; supplementary portal record; primary source citation required
5	Spiny amaranth	*Amaranthus spinosus* L.	Hatikhutura	Amaranthaceae	Leaf preparations traditionally used to increase lactation; root and leaf preparations reported for anaemia.	Sharma & Sharma (2010) (Sonapur/Dimoria)
6	Slender amaranth	*Amaranthus viridis* L.	Khutura Xak	Amaranthaceae	Leaf decoction traditionally used for fever and asthma; root decoction for urinary problems.	Kalita et al. (2024) (Dimoria)
7	Spreading hogweed	*Boerhaavia diffusa* L.	Punarnava/Punnarnava	Nyctaginaceae	Leaf juice traditionally used for oedema; traditional use in snakebite has also been recorded.	Sharma & Sharma (2010) (Sonapur/Dimoria)
8	Indian pennywort	*Centella asiatica* (L.) Urb.	Bor Manimuni	Apiaceae	Leaves traditionally used for stomach complaints and as a liver tonic.	Kalita et al. (2024) (Dimoria)
9	Bengal dayflower	*Commelina benghalensis* L.	Kona-shimolu/Konashimalu	Commelinaceae	Plant exudate traditionally applied to warts; the species is a common field weed in Assam.	Sharma & Sharma (2010) (Sonapur/Dimoria)
10	Bermuda grass	*Cynodon dactylon* (L.) Pers.	Duwari Ban/Dubari-bon	Poaceae	Leaf juice traditionally used for dysmenorrhoea, anorexia, diarrhoea and dysentery; nasal application reported for nosebleeding.	Sharma & Sharma (2010) (Sonapur/Dimoria)
11	Purple nutsedge	*Cyperus rotundus* L.	Keya bon/Keya-bon	Cyperaceae	Seed powder traditionally used for fever after delivery; rhizome decoction used for stomach and bowel problems.	Kalita et al. (2024); Bhattacharjya & Borah (2008) (Dimoria)

12	False daisy	*Eclipta prostrata* (L.) L.	Bhringaraj/Kehraj	Asteraceae	Whole-plant preparations traditionally used for hair growth and immune-related purposes; leaf juice used for eye disorders; wound and gastrointestinal uses	Kalita et al. (2024); Bhattacharjya & Borah (2008) (Dimoria)
13	Asthma herb/common spurge	*Euphorbia hirta* L.	Gakhiroti-bon	Euphorbiaceae	Whole plant traditionally used for wounds; Assam sources report use for dysentery, cough, asthma and genitourinary complaints.	Bhattacharjya & Borah (2008); KIRAN database; primary source citation required (Nalbari, Assam)
14	Indian heliotrope	*Heliotropium indicum* L.	Hatishur	Heliotropiaceae	Leaf paste traditionally applied to cuts, wounds, abscesses and insect bites; leaf juice used as a diuretic.	Sharma & Sharma (2010) (Sonapur/Dimoria)
15	Java pennywort	*Hydrocotyle javanica* Thunb.	Horu Manimuni/Bar Manimuni	Araliaceae	Leaf or whole-plant juice traditionally used for fever, cough and stomach problems.	Kalita et al. (2024); Bhattacharjya & Borah (2008), Nalbari (Dimoria)
16	Common leucas	*Leucas aspera* Link	Durun/Drona puspa	Lamiaceae	Traditionally used for liver ailments and headache; external applications reported for bites and respiratory complaints.	Kalita et al. (2024); Sharma & Sharma (2010) (Dimoria)
17	Mile-a-minute weed	*Mikania micrantha* Kunth	Amar lota	Asteraceae	Leaves traditionally used for fever after childbirth and jaundice; the climber has also been associated with traditional fracture treatment.	Kalita et al. (2024) (Dimoria)
18	Sensitive plant	*Mimosa pudica* L.	Nilaji lota/Lajukilata	Fabaceae	Root preparation traditionally used for piles; leaf and root preparations also reported for diarrhoea, jaundice and asthma.	Kalita et al. (2024); Sajem & Gosai (2006) (Dimoria)
19	Field mint	*Mentha arvensis* L.	Pudina	Lamiaceae	Traditionally used for digestive and stomach-related complaints.	Kalita et al. (2024) (Dimoria)

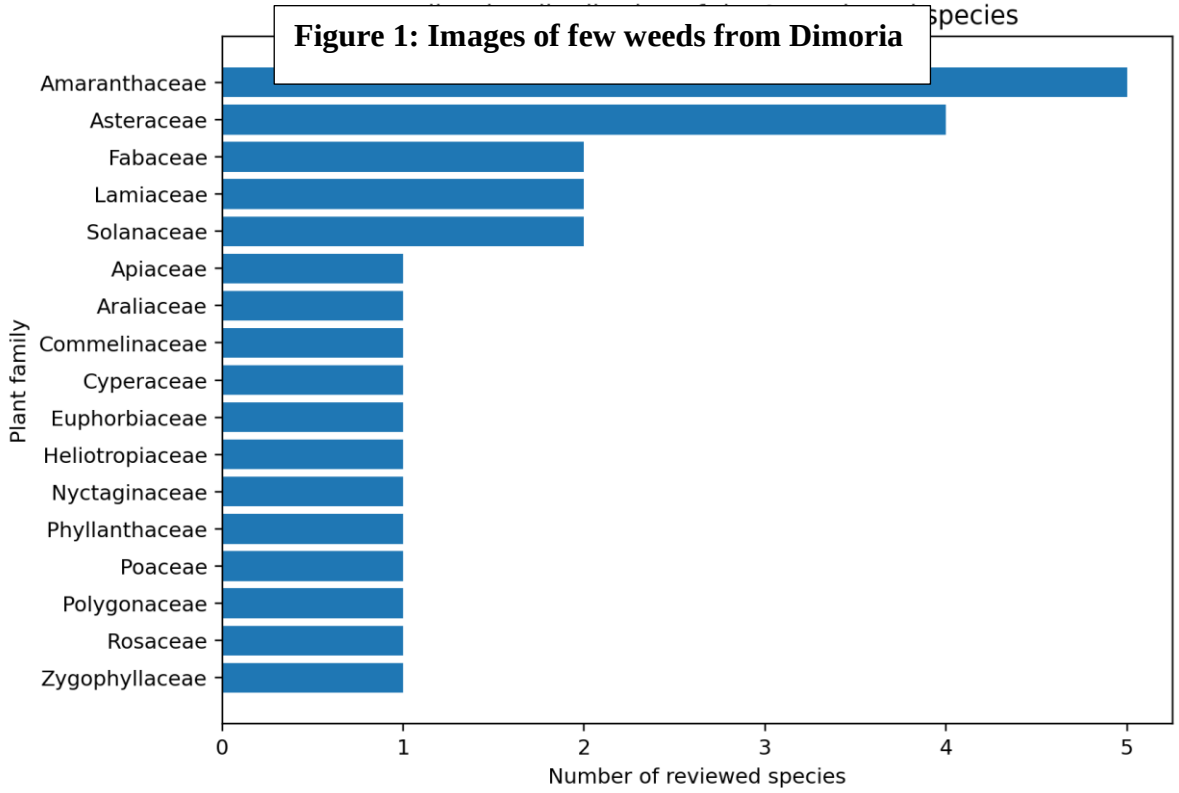
20	Stonebreaker	*Phyllanthus niruri* L.	Bhui Amlokhi/Santu-plain-jarmi	Phyllanthaceae	Leaf decoction traditionally used for constipation, diarrhoea and dysentery; Assam research also reports use for fever.	Kalita et al. (2024); Sajem & Gosai (2006) (Dimoria)
21	Water pepper	*Persicaria hydropiper* (L.) Delarbre	Bon Ghehu	Polygonaceae	Leaves and stems traditionally used as poultice or decoction for arthritis, pain and muscle soreness.	Kalita et al. (2024) (Dimoria)
22	Little groundcherry	*Physalis minima* L.	Kopalphuta	Solanaceae	Leaves traditionally prepared for use in relation to lactation.	Sharma & Sharma (2010) (Sonapur/Dimoria)
23	Yellow-berried nightshade	*Solanum surattense* Burm.f.	Kantakari	Solanaceae	Leaf preparations traditionally used for inflammation and piles; decoction used for asthma.	Kalita et al. (2024) (Dimoria)
24	Coffee senna	*Senna occidentalis* (L.) Link	Bon medelua	Fabaceae	Leaf juice traditionally used for diabetes, cough and malaria; leaf paste applied to cuts and wounds.	Kalita et al. (2024) (Dimoria)
25	Puncture vine	*Tribulus terrestris* L.	Gokharu	Zygophyllaceae	Leaf preparations traditionally used as expectorant and aphrodisiac; seed preparation used traditionally as a haemostatic.	Sharma & Sharma (2010); Kalita et al. (2024) (Dimoria)
26	Cocklebur	*Xanthium strumarium* L.	Agora	Asteraceae	Smoke traditionally used as an insect and mosquito repellent; other Assam literature records medicinal applications.	Sharma & Sharma (2010) (Sonapur/Dimoria)
27	Snake strawberry	*Duchesnea indica* (Andrews) Focke	Ban-kamla	Rosaceae	Leaf and tender-stem preparations traditionally applied as an ointment for wounds and itching.	Bhattacharjya & Borah (2008) (Nalbari, Assam)

Table 1. Common medicinal weeds and weed-like plants relevant to Dimoria Block and the wider Kamrup–Assam region



Figure 1: Images of few weeds from Dimoria

Figure 2. Family-wise distribution of the 27 species included in Table 1. Counts were recalculated from the family assignments in the final table.



4.1. Family-wise distribution

Among the 27 species in Table 1, Amaranthaceae is represented by five species and Asteraceae by four. Fabaceae, Solanaceae and Lamiaceae each contribute two species; the remaining families contribute one species each. These counts describe the selected review list, not the full medicinal flora of Dimoria. Family totals were recalculated from the scientific names and family assignments in Table 1.

The family distribution indicates that Amaranthaceae and Asteraceae are the most represented families in this selected list. These proportions should be interpreted as a summary of the 27 reviewed species, rather than as a measure of their abundance in the landscape or of the full regional flora.

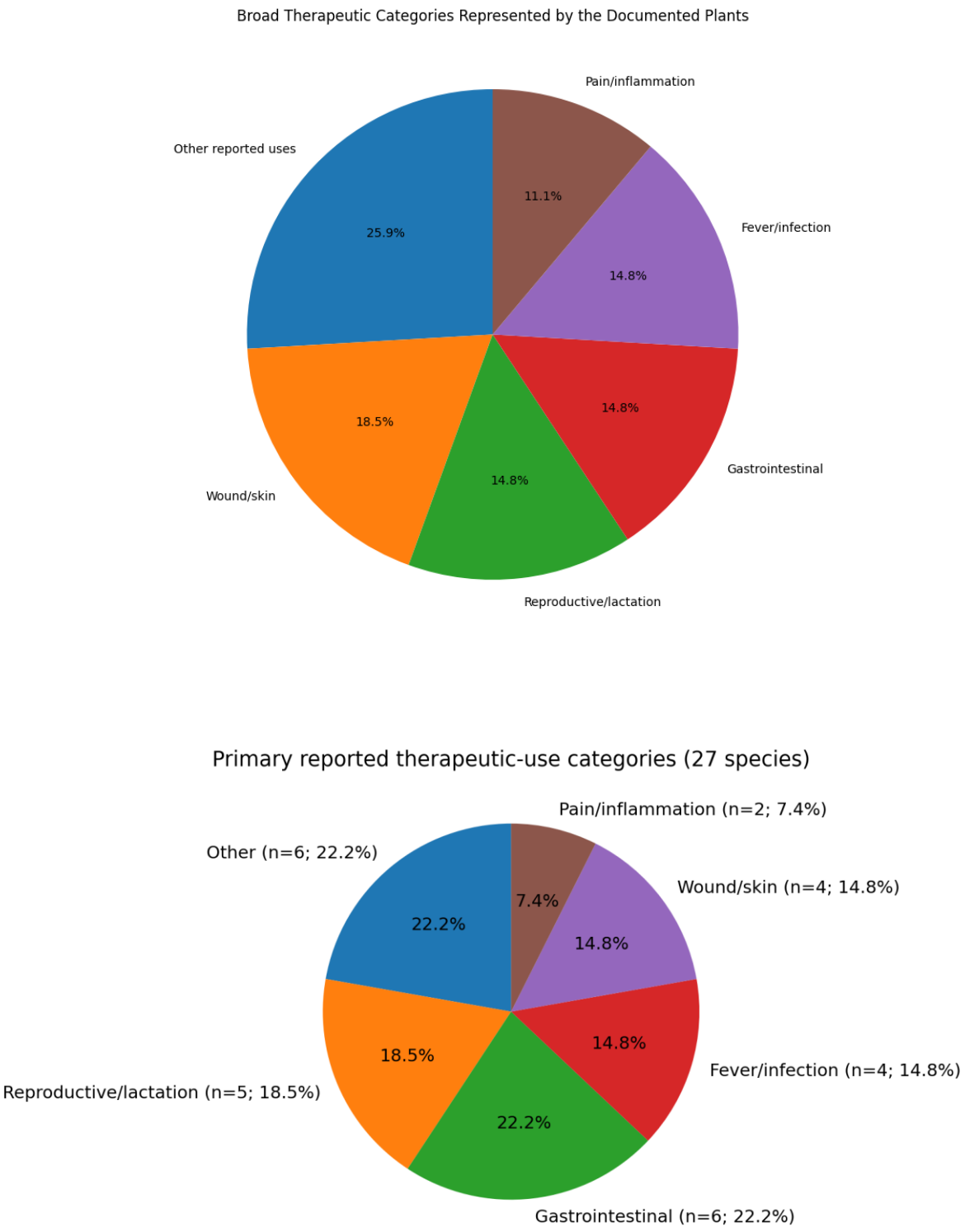


Figure 3. Distribution of the 27 reviewed species across mutually exclusive primary therapeutic-use categories. Percentages are calculated as category count divided by 27; categories represent reported traditional uses, not efficacy.

4.2. Ailments / therapeutic uses

For Figure 3, each of the 27 species was assigned one primary therapeutic category based on the principal use emphasized in the table. This mutually exclusive coding was used to calculate percentages and avoid double-counting species with multiple reported uses. The categories summarize reported traditional uses only; they do not indicate effectiveness.

- Other reported uses: 22.2% (6 of 27 species).
- Wound/skin: 14.8% (4 of 27 species).
- Gastrointestinal: 22.2% (6 of 27 species).
- Fever/infection: 14.8% (4 of 27 species).
- Reproductive/lactation: 18.5% (5 of 27 species).
- Pain/inflammation: 7.4% (2 of 27 species).

The reviewed plants are associated with several categories of traditional use. Wound and skin-related uses form the largest defined category after "other reported uses", while gastrointestinal, fever/infection and reproductive or lactation-related uses are also represented. The percentages describe how the authors categorized the principal reported use for each plant; they should not be interpreted as evidence of clinical benefit.

5. Discussion

5.1 Diversity and ethnomedicinal significance of medicinal weeds

The results demonstrate that medicinal weeds constitute an important component of the ethnobotanical resources associated with Dimoria and Assam. The 2024 Dimoria investigation recorded 80 medicinal plant species from 45 families, with herbs representing the largest habit category. The study also documented 56 human ailments, demonstrating that local medicinal knowledge extends across multiple health categories.The dominance of herbaceous plants is particularly relevant to weed research. Herbs are generally shorter-lived, reproduce rapidly and colonize disturbed environments efficiently. These characteristics allow them to become abundant in agricultural fields, roadsides and fallow land. Their abundance and accessibility may facilitate repeated use by local communities.The earlier Sonapur study provides independent evidence of this relationship within Dimoria. Sharma and Sharma (2010) recorded medicinal plants from ten traditional healers and found that fresh juice, decoctions, infusions and powders were important preparation forms. Several of the plants documented in their study, including *Cynodon dactylon*, *Commelina benghalensis*, *Heliotropium indicum*, *Leucas aspera*, *Physalis minima*, *Tribulus terrestris* and *Xanthium strumarium*, are spontaneous or weed-like plants.This suggests that the agricultural classification of a plant as a weed does not necessarily correspond to its cultural value. In the local healthcare system, availability may be an important factor determining whether a spontaneous plant becomes incorporated into traditional medicine.

5.2 Mikania micrantha as a medicinally relevant invasive weed

Mikania micrantha is one of the most conspicuous invasive weeds of tropical and subtropical landscapes. It grows rapidly and forms dense mats that can suppress other vegetation. Consequently, it is regarded primarily as an invasive species in agricultural and natural ecosystems.Nevertheless, its ethnomedicinal significance has been documented in Dimoria. Kalita et al. (2024) recorded *M. micrantha* under the local name Amar lota and reported a use value of 0.69. Leaves were traditionally used for fever following childbirth and jaundice, while the plant was also associated with traditional management of fractures.The species is therefore an important example of a plant possessing both ecological and cultural significance. Its medicinal value should not, however, be used as a reason to deliberately propagate the invasive species. Instead, controlled harvesting and scientific investigation should be considered alongside ecological management.

5.3 *Cyperus rotundus* as a medicinal agricultural weed

Cyperus rotundus is one of the most persistent weeds associated with agricultural fields. Its underground rhizomes and tubers enable rapid regeneration and make it difficult to eliminate through routine agricultural practices.In Dimoria, Kalita et al. (2024) recorded the species under the local name Keya bon and assigned it a relatively high

use value of 0.82. Seed powder was traditionally used for fever following childbirth, while rhizome decoction was used for stomach and bowel disorders.

The medicinal significance of *C. rotundus* has also been documented in the Assam study of medicinal weeds by Bhattacharjya and Borah (2008). Its repeated appearance in ethnobotanical research suggests that this otherwise troublesome agricultural weed deserves further pharmacological investigation.

5.4 *Mimosa pudica* and the importance of abundant roadside weeds

Mimosa pudica is a characteristic plant of disturbed areas and is commonly recognized by its sensitive leaves and prickly stems. Although it is frequently removed from agricultural and residential areas, it has considerable traditional medicinal importance.Kalita et al. (2024) recorded *M. pudica* in Dimoria under the local name Nilaji lota. Root juice mixed with milk was traditionally used for piles, while other preparations were reported for diarrhoea, jaundice and asthma. The species had a use value of 0.86, making it one of the more frequently cited medicinal plants in the Dimoria survey.The Jaintia ethnobotanical study of Assam independently recorded *M. pudica* for the treatment of piles, demonstrating that its medicinal importance is not restricted to a single community (Sajem & Gosai, 2006).The repeated documentation of this plant in different Assam communities illustrates the importance of common weeds as reservoirs of traditional medicinal knowledge.

5.5 *Amaranthus* species and the distinction between weeds and useful plants

Species of *Amaranthus* illustrate particularly well how the classification of a plant as a weed is dependent on land-use context. *Amaranthus spinosus* and *Amaranthus viridis* commonly occur in agricultural and disturbed environments but may also be consumed as leafy vegetables.Sharma and Sharma (2010) documented *A. spinosus* under the Assamese name Hatikhutura and reported traditional use of its leaves for lactation and its root and leaves for anaemia. Kalita et al. (2024), meanwhile, documented *A. viridis* as Khutura Xak in Dimoria and reported leaf decoction for fever and asthma and root decoction for urinary problems.The ethnobotanical importance of these species therefore lies in their dual role as spontaneous vegetation and useful food-medicinal plants.

5.6 *Eclipta prostrata, Phyllanthus niruri* and other small herbaceous weeds

Small herbaceous plants are often overlooked because of their size, short life cycle and widespread occurrence. Nevertheless, species such as *Eclipta prostrata* and *Phyllanthus niruri* have a well-documented history of ethnomedicinal use.Kalita et al. (2024) recorded *Eclipta prostrata* under the local name Bhringaraj and reported whole-plant preparations for hair growth and leaf juice for eye disorders. Bhattacharjya and Borah (2008) additionally recorded leaf and stem paste for wounds and plant juice for stomach disorders and dysentery.Similarly, *Phyllanthus niruri*, known as Bhui Amlokhi in Dimoria, was reported by Kalita et al. (2024) for digestive disorders including constipation, diarrhoea and dysentery. Sajem and Gosai (2006) independently documented *P. niruri* in Assam for diarrhoea and fever.These observations demonstrate the value of small spontaneous herbs as accessible household medicinal resources.

5.7 The importance of *Leucas aspera* and *Heliotropium indicum*

Leucas aspera is frequently encountered in roadsides, fields and disturbed habitats. In Dimoria, Kalita et al. (2024) recorded the Assamese name Durun and reported traditional applications for liver ailments and headache, as well as external applications for snake and scorpion bites and inhalation of crushed leaves for sinusitis.Sharma and Sharma (2010) independently recorded *L. aspera* as Drona puspa in Sonapur, confirming its importance in the local ethnomedicinal tradition.*Heliotropium indicum* similarly represents a common spontaneous herb. Sharma and Sharma (2010) recorded it as Hatishur and documented the application of leaf paste to cuts, wounds, abscesses and insect bites, together with oral use of leaf juice as a diuretic.These species demonstrate the importance of weed flora in the treatment of relatively common household health problems, especially minor wounds and gastrointestinal or respiratory complaints.

5.8 Medicinal weeds and gastrointestinal disorders

Gastrointestinal disorders represent one of the most prominent categories of ethnomedicinal use in Dimoria. Kalita et al. (2024) reported that 39 of the documented medicinal plant species were traditionally used for gastrointestinal

disorders.Several weeds reviewed in the present paper are associated with this category. *Phyllanthus niruri* is used traditionally for constipation, diarrhoea and dysentery; *Cyperus rotundus* is used for stomach and bowel disorders; *Centella asiatica* is used for stomach complaints; *Ipomoea aquatica* is traditionally used for digestive problems; and *Mimosa pudica* is reported for diarrhoea. The recurrence of gastrointestinal applications may reflect the high frequency of such ailments in rural communities and the ready availability of herbaceous plants. However, traditional use should be considered a basis for scientific investigation rather than clinical validation.

5.9 Medicinal weeds and dermatological disorders

Dermatological applications form another important component of traditional plant use in Dimoria. Kalita et al. (2024) recorded 24 medicinal species for dermatological disorders.Weeds such as *Eclipta prostrata*, *Heliotropium indicum*, *Senna occidentalis*, *Centella asiatica* and *Alternanthera* species are associated with traditional treatment of wounds, skin inflammation or other dermatological complaints. *E. prostrata* was reported for wounds by Bhattacharjya and Borah (2008), while *H. indicum* was documented for wounds, abscesses and insect bites by Sharma and Sharma (2010).The widespread use of plant pastes on skin injuries suggests that traditional communities have developed practical methods for utilizing locally available plant material for external applications. These observations could provide useful starting points for antimicrobial and wound-healing research.

5.10 *Alternanthera philoxeroides:* invasive weed and medicinal resource

The recent study of *Alternanthera philoxeroides* by Sharma and Das (2025) is particularly important for understanding the relationship between invasive weeds and traditional knowledge in Kamrup Metropolitan. The study was conducted in Panikhaiti village and combined ecological sampling with ethnobotanical interviews. Forty-five local informants participated in the field survey.The study found that the plant was used traditionally for stomach problems, diarrhoea, dysentery, loss of appetite, asthma and acute cough. Leaves, tender shoots, stems and the whole plant were used, with juice, paste, decoction and cooked preparations being reported.Ecologically, however, *A. philoxeroides* can form dense populations and compete with associated vegetation. Sharma and Das (2025) therefore emphasized the need to integrate indigenous knowledge with ecological management rather than considering the species solely as either a useful medicinal plant or an invasive weed.

This finding has direct relevance to Dimoria because Panikhaiti and Dimoria occur within the same broader Kamrup Metropolitan landscape. It illustrates how future Dimoria research should evaluate medicinal weeds from both human-use and ecosystem-management perspectives.

6. Ethnobotanical Knowledge and Scientific Validation

The ethnomedicinal knowledge associated with weeds in Dimoria represents an important source of information for future biological research. Traditional healers and household practitioners possess information concerning plant identity, plant parts, preparation techniques and perceived therapeutic effects. Kalita et al. (2024) recorded this information systematically using household questionnaires, key-informant interviews and focus-group discussions involving 140 informants.The value of ethnobotanical research lies in its capacity to generate hypotheses for subsequent pharmacological research. Kotoky and Das (2008), for example, documented 24 plant species used traditionally for liver disorders in parts of Kamrup. Their work illustrates how local therapeutic knowledge can be systematically recorded and subsequently examined through phytochemical and pharmacological approaches.Similarly, Sharma et al. (2012) documented 46 medicinal plant species belonging to 30 families used traditionally for anti-ringworm treatment in Kamrup. Their findings illustrate the potential value of local knowledge for identifying plant resources that may possess antimicrobial or antifungal activity.However, ethnobotanical evidence cannot by itself establish efficacy. Differences in plant identification, dose, preparation, environmental conditions, harvesting season and route of administration can substantially alter the biological properties of a preparation. For this reason, the therapeutic claims recorded in Dimoria require laboratory and clinical investigation. Traditional preparations may also vary in concentration and purity, and some species may contain toxic constituents or cause adverse effects. Particular caution is warranted for oral use, pregnancy, children, chronic illness and possible interactions with prescribed medicines. No dosage or treatment recommendation should be inferred from this review.

7. Ecological Importance and Weed Management

The medicinal value of weeds creates a complex issue for ecological management. Some weeds are native or naturalized components of agricultural landscapes, whereas others are invasive species capable of causing significant ecological or economic damage.

Mikania micrantha and *Alternanthera philoxeroides* are particularly important examples. Both possess traditional uses but may also suppress other vegetation. Medicinal value should therefore not become a justification for uncontrolled cultivation or dispersal of invasive species.At the same time, indiscriminate eradication of all spontaneous plants could result in the loss of useful medicinal resources and traditional knowledge. Weed management in areas such as Dimoria should therefore distinguish between highly invasive species requiring control and relatively benign spontaneous plants that may have nutritional or medicinal significance.The documentation of medicinal weeds can consequently contribute to more informed weed-management strategies. Instead of regarding all non-crop vegetation as biologically useless, management programs can recognize plants that possess local cultural or medicinal significance while maintaining control over species that pose substantial ecological risks.

8. Conservation of Traditional Knowledge

Traditional knowledge associated with medicinal weeds is vulnerable to gradual erosion. Modernization, changes in agricultural practices, reduction of natural habitats and increasing dependence on commercial medicines may reduce the transmission of knowledge from older generations to younger people.Kalita et al. (2024) specifically emphasized the need to document traditional medicinal knowledge in Dimoria because such knowledge may disappear over time. Their study showed that many respondents obtained medicinal plant knowledge through family members and community traditions.The Sonapur investigation of Sharma and Sharma (2010) similarly demonstrated that traditional healers continued to maintain detailed knowledge of plant preparation, dosage and treatment practices.Documentation should therefore include not only plant names but also voucher specimens, local names, habitat, plant parts used, preparation methods, traditional dosage and cultural context. Such information would provide a valuable baseline for future scientific investigation and biodiversity management.

9. Future Research Perspectives

A systematic field investigation of medicinal weeds in Dimoria would be valuable. Such research should combine vegetation sampling with ethnobotanical interviews so that both ecological abundance and cultural importance can be quantified.Accurate botanical identification should constitute the first stage of such research. Voucher specimens should be deposited in recognized herbaria, and scientific names should be checked against current taxonomic databases. This is particularly important because older ethnobotanical publications sometimes use taxonomic names that have subsequently changed. The next stage should involve phytochemical screening of species repeatedly reported for particular ailments. Species such as *Cyperus rotundus*, *Mimosa pudica*, *Eclipta prostrata*, *Phyllanthus niruri*, *Leucas aspera*, *Mikania micrantha* and *Alternanthera philoxeroides* could provide useful candidates for laboratory investigation.Pharmacological studies should test biological activities corresponding to the traditional claims, including antimicrobial, antifungal, anti-inflammatory, antioxidant, hepatoprotective, analgesic, antidiarrhoeal and wound-healing activities. Toxicological assessment should be conducted simultaneously because a plant with pharmacological activity may also contain toxic constituents. Future research should also investigate whether traditional medicinal knowledge differs among Karbi, Bodo, Rabha, Assamese and other communities of Dimoria. Comparative ethnobotanical research could reveal culturally specific uses as well as shared medicinal practices.

10. Conclusion

Medicinal weeds and weed-like plants are an important part of the traditional plant knowledge documented in Dimoria and the wider Kamrup–Assam region. This review synthesizes 27 species selected from published ethnobotanical reports. The evidence base includes direct studies from Dimoria and Sonapur, as well as supporting records from elsewhere in Assam; therefore, not every species in the table can be described as directly documented in Dimoria. The plants are associated with traditional uses for gastrointestinal complaints, wounds and skin conditions, fever, respiratory problems, pain and reproductive concerns. Invasive species such as Mikania micrantha and Alternanthera philoxeroides also illustrate the need to consider ecological risks alongside cultural use. Traditional reports do not establish clinical efficacy or safety. Accurate botanical identification, transparent

documentation of provenance, and further phytochemical, pharmacological and toxicological research are needed before therapeutic claims can be substantiated.The evidence from Sonapur provides direct historical documentation of medicinal plant use within Dimoria Development Block, while the comprehensive investigation by Kalita et al. (2024) demonstrates that Dimoria currently retains extensive ethnomedicinal knowledge involving 80 medicinal plant species and 56 human ailments.The 27 species reviewed in this paper demonstrate considerable diversity in taxonomic composition and medicinal application. Herbaceous weeds such as *Amaranthus viridis*, *Cynodon dactylon*, *Cyperus rotundus*, *Eclipta prostrata*, *Leucas aspera*, *Mimosa pudica* and *Phyllanthus niruri* are associated with gastrointestinal, respiratory, dermatological, urinary and other traditional healthcare applications. Invasive weeds such as *Mikania micrantha* and *Alternanthera philoxeroides* illustrate the more complex relationship between medicinal usefulness and ecological impact.

The medicinal importance of these weeds should therefore be interpreted within a socio-ecological framework. Their value arises from their accessibility, abundance, cultural familiarity and traditional applications, but these characteristics do not establish clinical efficacy. Scientific validation through taxonomy, phytochemistry, pharmacology and toxicology is required before therapeutic conclusions can be made. The medicinal weeds of Dimoria consequently represent a promising area for interdisciplinary research. Proper documentation can simultaneously contribute to the preservation of indigenous knowledge, the scientific investigation of plant-derived bioactive compounds, sustainable weed management and conservation of Assam's ethnobotanical heritage.

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