



## RESEARCH ARTICLE

# Diversity and ethnobotanical uses of Lamiaceae members in the Barak Valley region of Assam, India

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## Abstract

Species of Lamiaceae are associated with the livelihood and economy of various communities worldwide. The local communities of the culturally rich North East Region of India are using many species of Lamiaceae in their day-to-day life. A study has been carried out to unveil the taxonomic diversity and ethnobotanical uses of Lamiaceae in Barak Valley region of Assam, India during 2020–2023. The study comprises of the primary data collected from the study area and also secondary information were gathered through published works. A total of 64 species of Lamiaceae under 26 genera were recorded from different habitats of the region. *Clerodendrum*, *Premna*, *Leucas*, and *Ocimum* were the most dominant genera recorded from the present study site. *Hyptis brevipes* and *Teucrium viscidum* are reported as new additions to the Flora of Barak Valley. The highest number of species were found to be distributed along roadsides and waste lands (16 species each) which is followed by river banks (13 species), grasslands (4 species), and dense forests (5 species). Few of the species like *Clerodendrum splendens*, *Salvia coccinea*, *Volkameria inerme* etc. are found cultivated as ornamentals. Species like *Anisomeles indica*, *Clerodendrum glandulosum*, *Hyptis suaveolens*, *Leucas aspera*, *Pogostemon auricularius* are found widespread in the study area. Ethnobotanical study revealed the uses of 32 species by different ethnic communities of the region namely Bengali, Dimasa, Hmar, Meitei, and Reang etc. The species like *Clerodendrum glandulosum*, *Elsholtzia griffithii*, *Leucas aspera*, *Mentha piperita*, *Perilla frutescens*, are found to be sold widely in the local markets signifying its commercial potential for improving the livelihood of the rural communities.

Keywords: Assam; Barak Valley; Lamiaceae; Ethnobotany; Diversity; Distribution; Commercial Value

## 1. Introduction

The Lamiaceae is the sixth-largest angiosperm family and the largest in the order Lamiales, with around 236 genera and 7137 species worldwide (Chase et al., 2016, Harley et al., 2004). The family is found all over the planet (Heywood et al., 2007), but it is absent in the coldest regions at high altitudes. India has approximately 425 species classified under 68 genera (Sampathkumar, 1995). The contribution of Hooker in his *Flora of British India* is one of the significant taxonomic works for understanding the occurrence of Lamiaceae in India. In Northeast India, the accounts of the family are primarily based on the works of Hooker (1885), Kanjilal (1939), Deb (1961), Barooah and Ahmed (2014). Many species in the family, including *Tectona grandis*, *Gmelina arborea* (wood), *Salvia coccinea*, *Clerodendrum splendens* (ornamental plants), *Ocimum basilicum*, *Elsholtzia griffithii* (culinary plants), and *Ocimum tenuiflorum* (herbal remedies) are extensively found in the region and are economically valuable.

The state of Assam is situated in the foothills of the Eastern Himalayas. Its varied topography and climatic conditions support rich species diversity and luxuriant growth of different

plant taxa. The state has a total of 3854 angiosperm species distributed under 236 families and 1395 genera which accounts for 22.68% of the Indian flora (Barooah and Ahmed, 2014). Lamiaceae is one of the dominant family in the state with 33 genera and 87 species (Barooah and Ahmed, 2014) species. Several medicinal and economically potentially important Lamiaceae species are found in the state. These plants are commonly found in waste lands and along roadsides and thus species may become vulnerable due to various developmental activities. The work of Kanjilal (1939), and Barooah and Ahmed (2014) is still the major source of information for the occurrence and diversity of the species in the state. The species under the Lamiaceae are mainly aromatic which contain several oleochemical compounds making it a significant component in traditional medicine. No comprehensive study of the family has been made available. Considering the species richness and economic potentiality of the species, a study has been initiated to find out the taxonomic diversity and ethnobotany of the Lamiaceae in the state of Assam. As a part of this study the present paper deals with the diversity and traditional uses of Lamiaceae members of Barak Valley of Assam in India.

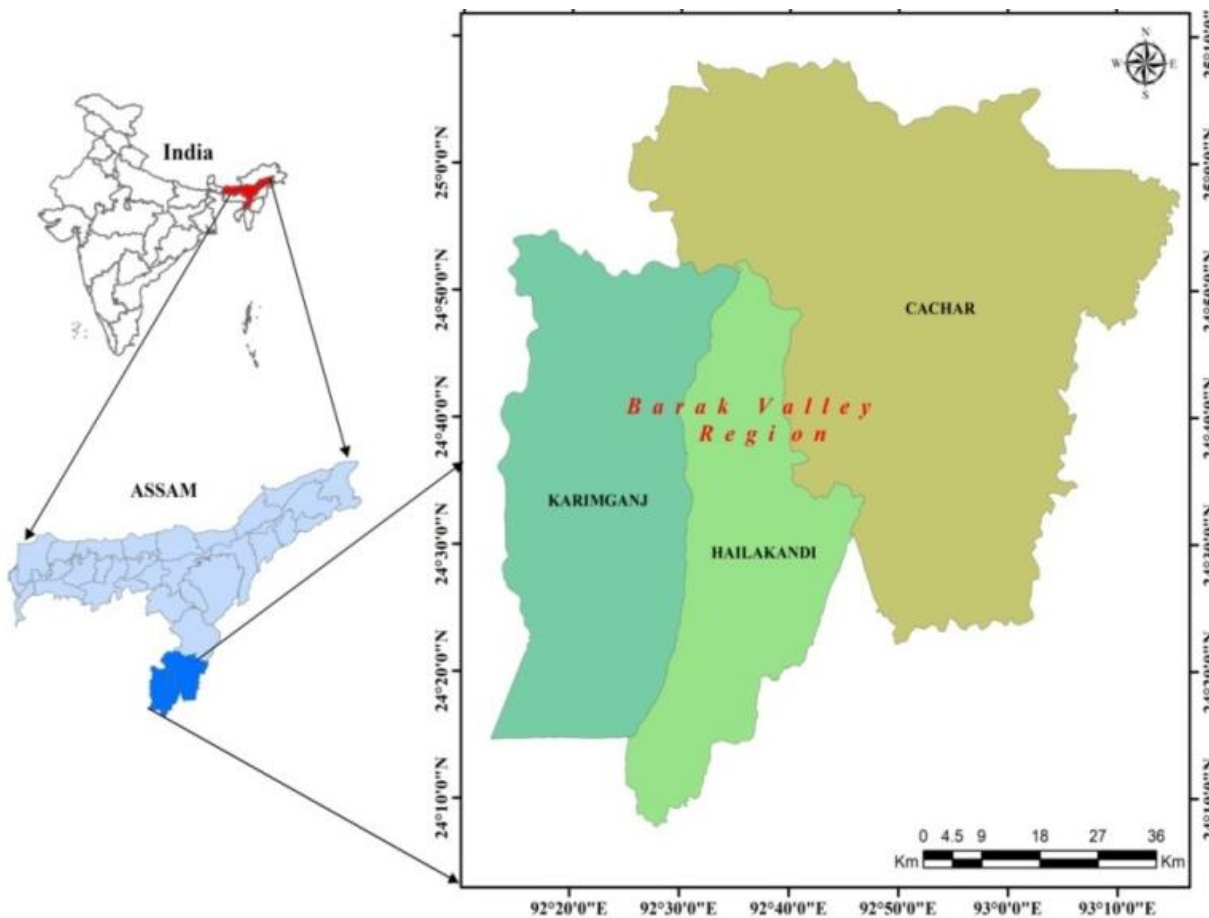


Figure 1. Map showing study site - Barak Valley Region of Assam, North East India.

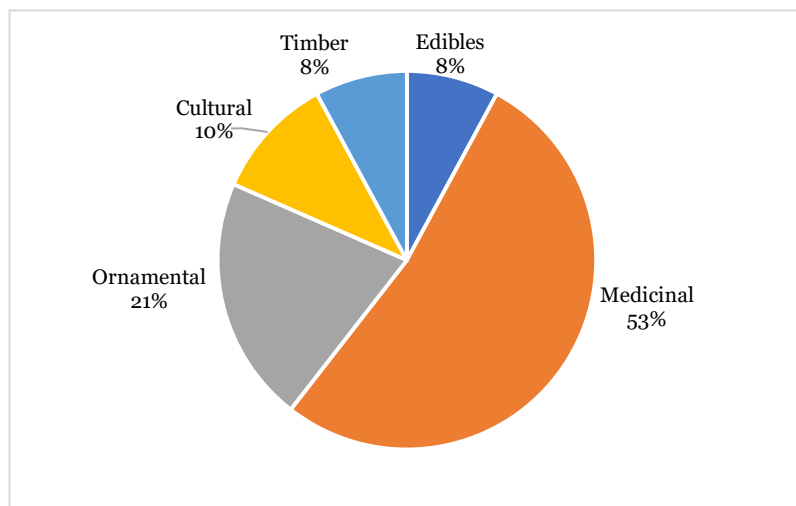


Figure 2. Pie chart showing percentage of plants used in different categories.

## 2. Materials and methods

The Barak Valley is located in the southernmost part of the state Assam covering approximately 22,244.0 sq km. The region is gifted with lush green hills and plains, marked by a rich diversity of flora and fauna and stunning natural landscapes. The Barak

River, which is the region’s lifeline, runs through the valley. The valley experiences a tropical monsoon climate, with high humidity and abundant rainfall. It consists of the 3 districts namely Cachar, Karimganj and Hailakandi. The valley is home to many communities including the Bengali, Manipuri, Dimasa, Hmar, Biata, Khasia, and Reang, tribes. These different tribes have their unique customs, traditions, and dialects, making the valley a unique and dynamic cultural hub.

For collection of voucher specimens and ethnobotanical data, extensive field surveys were carried out in the three districts during 2020 to 2023. The voucher specimens were collected with detailed notes on the habit, habitats, local name, distributional range, flowering and fruiting season, and traditional uses if any through interactions with the indigenous communities. The specimens were morphologically characterized after studying the floral components. Both field and microscopic images were captured utilizing Nikon and Zeiss respectively. The herbarium specimens were prepared following standard techniques (Jain and Rao, 1976). The specimens were identified by comparing the specimens deposited in herbaria (ASSAM!, ARUN!, CAL!) and with those from literatures, online databases, and other sources. Accepted name of each species were verified in POWO (<https://powo.science.kew.org/>).

The vouchers specimens were deposited in the Herbarium of the Department of Forestry, NERIST, Arunachal Pradesh. For the ethnobotanical study, survey was conducted by open-end interviews with the village head, local herbal healers and elderly people of the village including both women and men who are knowledgeable on the traditional uses of the plants. The available secondary information was also collected through critical screening of available literature.

### 3. Results and discussion

#### 3.1. Diversity and distribution

This study revealed the occurrence of a total of 60 species and 26 genera of Lamiaceae found in the Barak Valley region of Assam. These species have been found growing in a variety of habitats, including, wastelands, agricultural lands, scrub lands, dense forests, and mixed and secondary forests. According to habitat preference, the greatest number of species were found in roadside and waste lands (14 species), river banks (13 species), and grasslands (5 species), and deep forests (5 species). A few species have also been observed in cultivated lands (Table 1). Habit-wise, there are 27 spp. of herbs, followed by 20 spp of shrubs, 12 trees spp. and 5 spp. of climbers. *Clerodendrum* is the most dominant genera recorded with 9 spp. which is followed by *Premna* with 8 spp, *Leucas* (5 spp), *Ocimum* (5 spp), *Gomphostemma* and *Vitex* with 4 spp. each, *Pogostemon*, *Hyptis*, *Salvia*, *Callicarpa* with 3 spp, *Sphenodesme* and *Mentha* with 2 spp each, and the remaining genera were represented by one species each.

It was found that many species like *Hyptis suaveolens*, *H. capitata*, *Leucas aspera*, *Anisomeles indica*, *Pogostemon auricularius*, and *Clerodendrum glandulosum*, *C. indicum* were found wide spread in the study area. The species *Hyptis brevipes*, *Teucrium viscidum* have been reported as new records for the flora of Barak valley. Additionally, the study demonstrates that the Barak valley region is also home to the five species that are endemic to Northeast region of India. These include *Clerodendrum bracteatum*, *Gomphostemma mastersii*, *G. melissifolium*, *G. parviflorum*, *Microtoena patchouli*. However, the species *Platostoma verbenifolium*, *Siphocranium macaranthum*, *Pogostemon amaranthoides* were found to be recorded by early workers (Baroah and Ahmed, 2014; Baruah et al., 2013) were not reported in the present study.

The present study shows the rich diversity of the Lamiaceae species in the Barak Valley indicating the favourable climatic conditions of the valley for their proliferation and sustenance. The ethnobotanical knowledge that has been passed down from generation has been used by the native people for a variety of purposes which was reported by other workers (Barbhuiya et al., 2009; Nath et al., 2011). Different parts of the medicinal plant species are used in traditional medicines for curing ailments ranging from digestive problems to skin diseases etc. Many edible and medicinal plants are also found growing in the home gardens and many have been reported as cultivated by many tribes in the hilly parts of the valley.

#### 3.2. Ethnobotanical uses

Out of the 64 species found in the region, 32 species are used by the indigenous communities in the area for different purposes (Table 2). As per their uses by the local communities, these species can be classified into five major categories namely medicinal (20 spp), edibles (9 spp), ornamentals (8 spp), cultural and rituals (4 spp), and timber (3 spp). In some cases, it has also been noticed that the whole plant parts are used. Leaves are the most commonly used plant part harvested which is followed by stems, seeds, roots and inflorescence.

Among the ethnobotanical uses, majority of the species are being used as ethnomedicine. Because of the occurrence of various

important bioactive compounds, the Lamiaceae species are reported to be extremely therapeutic in nature. The Lamiaceae members are used from ancient times as source of medicine in Ayurveda. The ethnobotanical information has also shown that, of the 20 medicinal plants, 8 species, such as *Clerodendrum infortunatum*, *Elsholtzia griffithii*, *Leucas aspera*, *Mentha arvensis*, *Ocimum americanum*, *O. gratissimum*, *O. tenuiflorum*, and *Pogostemon benghalensis* have multiple therapeutic applications for a wide range of ailments.

The medicinal plants recorded in the study site are found to be used in treating variety of ailments such as diarrhea, dysentery, fever, urinating problems, lowering blood pressure, chicken pox, boils, cuts and wounds, gastritis, sinusitis, headache, stomach problems, cough and cold, skin conditions, indigestion etc. The medicinal plants reported for treating stomach pain are *Clerodendrum infortunatum*, *Elsholtzia griffithii*, *Hyptis suaveolens*, *Leucas aspera*.

The paste made from the leaves of *Plectranthus scutellarioides*, *Pogostemon auricularius*, *Teucrium viscidum* are applied in cuts and bruises. It has been found that local resident who have chicken pox are wear pendent like dried stems of *Clerodendrum indicum* around their necks knotted with thread until the disease gets cured. Such uses of the species were not known before. The local people reported that two species *Anisomeles indica* and *Hyptis suaveolens* are particularly useful in treating urination problems. In the first species decoction made from its tender leaves and for the second species the seeds of are steeped and taken to cure the problems of urination. The decoction made from the leaves of *Elsholtzia griffithii*, *Ocimum basilicum*, *O. gratissimum*, *O. tenuiflorum*, *Pogostemon benghalensis* are used for curing cough and cold. *Leucas aspera*, *Ocimum africanum*, *Plectranthus scutellarioides*, are applied on skin to cure skin problems and boils. A paste made from the leaves of *Leucas aspera*, *Ocimum gratissimum*, and *Pogostemon benghalensis* is applied to the forehead to cure headaches. One of the species namely, *Ocimum africanum* is used for livestock medication by the Hmar community for healing wounds of the pigs. The uses of *Ocimum africanum* for ethnoveterinary practices is an interesting finding which is hitherto known.

Other than the medicinal uses, the species are used for some other purposes. Among the other uses the edible, ornamental and plants for cultural and rituals are the major ones. Due to its association with various religious beliefs, *Ocimum tenuiflorum* was seen planted in practically every home. Some species including *Clerodendrum japonicum*, *C. splendens*, *C. thomsoniae*, *Plectranthus scutellarioides*, *Salvia coccinea*, *Holmskoldia sanguinea* were also found to be cultivated as ornamental plants due to its attractive flowers and foliage. The Dimasa community residing in the area uses some plant species like *Callicarpa arborea*, *Clerodendrum indicum* in traditional and ceremonial rites. Additionally, the leaves are fried with eggs and offered to the dead during funeral rites by the Dimasa people. 10 species are consumed by the local people as vegetables which are *Clerodendrum glandulosum*, *C. indicum*, *Elsholtzia griffithii*, *Leucas aspera*, *Mentha arvensis*, *Ocimum americanum*, *O. basilicum*, *Perilla frutescens*, *Pogostemon benghalensis* and *Rothea serrata*. The species including *Ocimum africanum*, *Ocimum basilicum*, and *Mentha piperita* were also found to be cultivated in home gardens as the leaves and inflorescence of these plants were found to be used in flavouring of food, and for medicinal purposes. In the hilly areas of the region, the Hmar and Biata tribe cultivate the *Elsholtzia griffithii* and *Perilla frutescens* for culinary purposes. The seeds of *Perilla frutescens* and inflorescence as well as leaves of *Elsholtzia griffithii* are found sold in the local markets.

It was also found that the Meeitei community uses *Microtoena patchouli* and *H. capitata* leaves together to make lotion for hair. The tree species such as *Gmelina arborea*, *Tectona grandis*, *Callicarpa arborea*, *Premna benghalensis*, and *Premna milleflora* are used as timber and for construction purposes.



**Figure 3 (1-16).** Photo plates of 16 species (Lamiaceae) reported from the Barak Valley region of Assam. 1. *Rothea serrata*, 2. *Hyptis brevipes*, 3. *Clerodendrum indicum*, 4. *Hyptis suaveolens*, 5. *Pogostemon auricularius*, 6. *Holmskoldia sanguinea*, 7. *Hyptis capitata*, 8. *Teucrium viscidum*, 9. *Clerodendrum chinense*, 10. *Anisomeles indica*, 11. *Clerodendrum bracteatum*, 12. *Ocimum gratissimum*, 13. *Ocimum basilicum*, 14. *Callicarpa arborea*, 15. *Leonurus sibiricus*, 16. *Clerodendrum japonicum*.

Table 1. Taxonomic diversity and ethnobotanical uses of Lamiaceae species recorded from Barak Valley Region of Assam, India.

SN	Botanical Name	Local name	Habit	Fl & Frs	Habitat	Uses
1.	<i>Anisometes indica</i> (L.) Kuntze; Rimi 032	Thoiding angouba (Mei), Dokoma (Di)	Herb	October-March	Roadsides, waste places, moist places, near paddy fields, forest margins.	Decoction of tender leaves taken during urination problem.
2.	<i>Callicarpa arborea</i> Roxb.; Rimi 015	Mimalai (Di), Maisindai (Di),	Tree	Throughout the year	Along river sides, forest edges.	Leaves are cooked with other herbs and offered in death rituals (horat) in Dimasa community.
3.	<i>Callicarpa longifolia</i> Lam.; Rimi 062	-	Shrub	July-November	Along forest edges, roadsides.	-
4.	<i>Callicarpa macrophylla</i> Vahl; Rimi 091	-	Shrub	May-December	In secondary forests, along rivers sides.	-
5.	<i>Clerodendrum bracteatum</i> Wall.; Rimi 071	Hagrani mismao (Di)	Shrub	August-March	Along forest margins, hilly areas, mixed forests, river banks.	-
6.	<i>Clerodendrum chinense</i> (Osbeck) Mab. Rimi 023	Kuthap angaouba (Mei),	Herb	March-December	Roadsides, waste places, forest edges, tea plantations, cultivated in gardens.	Flower is offered to God in traditional Reang puja
7.	<i>Clerodendrum glandulosum</i> Lindl.; Rimi 020	Mismao (Di), Kuthap Mei,	Shrub	Aug-December	Shady places along roadsides, forest.	Leaves boiled as vegetable. Boiled or dried leaves in powdered form taken in morning lowers high blood pressure.
8.	<i>Clerodendrum indicum</i> (L.) Kuntze; Rimi 056	Charoi uthong(Mei), Kanaringma (Di)	Shrub	July- January	Road sides, near paddy fields, streams.	Stems are tied with thread in the neck for curing chicken pox. Leaves cooked with eggs are offered in dead rituals. Leaves are cooked with rice powder and eaten as curries.
10.	<i>Clerodendrum infortunatum</i> L.; Rimi 092	Skainyaopha (Di), Kuthapmanap(Mei),	Shrub	December-March	Roadsides, waste places, near river banks.	Tender leaves are pounded taken in dysentery, stomach pain. Roots extract for stomach pain. Flowers are used at wedding ceremonies.
11.	<i>Clerodendrum japonicum</i> (Thunb.) Sweet; Rimi 016	-	Shrub	April-December	Cultivated, also grown in evergreen and deciduous forests.	Cultivated, also grown in evergreen and deciduous forests.
12.	<i>Clerodendrum paniculatum</i> L.; Rimi 029	-	Shrub		Cultivated, also found inside forests.	Cultivated, also grown in evergreen and deciduous forests.
13.	<i>Clerodendrum splendens</i> G. Don; Rimi 093	-	Climber	January-September	Cultivated as ornamentals	Grown in gardens.
14.	<i>Clerodendrum thomsoniae</i> Balf.; Rimi 070	-	Climber	February-October	Cultivated as ornamentals	Cultivated as ornamentals.
15.	<i>Elsholtzia griffithii</i> Hook.f.; Rimi 024	Lomba (Mei), Lengser (Hm), Hagrani bahanda (Di)	Herb	October-January	Roadsides, and cultivated in hilly areas.	Inflorescence boiled and the juice is taken for cough, gastritis, stomach pain. Raw inflorescence and leaves used as condiments.
16.	<i>Gmelina arborea</i> Roxb.; Rimi 094	Gambaripang (Di), Wang (Mei)	Tree	February-April	Cosmopolitan.	For making furniture.

17.	<i>Gomphostemma mastersii</i> Benth. ex Hook.f.; Rimi 068	-	Shrub	June- April	Evergreen forests in moist shady places.	-
18.	<i>Gomphostemma melissifolium</i> Wall. ex Benth.; Rimi 067	-	Shrub	October- November	Near forest streams, hill slopes.	-
19.	<i>Gomphostemma niveum</i> Hook.f.; Rimi 060	-	Shrub	June- August	In wet areas inside evergreen forests.	-
20.	<i>Gomphostemma parviflorum</i> Wall. ex Benth.; Rimi 059	-	Shrub	June- April	In shades of dense forests.	-
21.	<i>Holmskioldia sanguinea</i> Retz.; Rimi 064	Khimjutha (Di)	Climbing Shrub	October- February	Cultivated, hill slopes.	Cultivated as ornamentals.
22.	<i>Hyptis brevipes</i> Poit.; Rimi 013	-	Herb	June- October	Wet areas near paddy fields.	-
23.	<i>Hyptis capitata</i> Jacq.; Rimi 012	-	Shrub	October- February	Roadsides, waste places.	Leaves are boiled with <i>Hibiscus rosa sinensis</i> flower and the lotion is applied to hair to make hair smooth and silky.
24.	<i>Hyptis suaveolens</i> (L.) Poit.; Rimi 017	Tockma (Di), Tukma (Mei, Be)	Shrub	September- February	Roadsides, waste places, hill slopes, river banks, rocky areas.	Seeds taken with palm sugar for gastric problem, stomach pain, dysentery and urinary problems.
25.	<i>Leonurus japonicus</i> Houtt.; Rimi 022	-	Herb	June- September	Roadsides, waste places.	-
26.	<i>Leucas aspera</i> Link; Rimi 095	Lembum (Mei), Sam sheebing (Di), Donkolosh (Be)	Herb	Throughout the year	Roadsides, paddy fields, waste places.	Leaf paste applied for skin diseases, applied on forehead when headache. Roots in combination with seeds of <i>Terminalia chebula</i> for dysentery. The juice of the leaves is inhaled for sinusitis. Leaves cooked as vegetable.
27.	<i>Leucas biflora</i> (Vahl) Sm.; Rimi 083	-	Herb	Throughout the year	On moist forest.	-
28.	<i>Leucas lanata</i> Benth., Rimi 097	-	Herb	April- December	Moist areas.	-
29.	<i>Leucas lavandulifolia</i> Sm.; Rimi 018	Donkolosh (Be)	Herb	Throughout the year	Riverbanks, roadsides, forest margins.	-
30.	<i>Leucas zeylanica</i> (L.) W.T.Aiton; Rimi 072	-	Herb	May- July	Grasslands, roadsides, riverbanks.	-
31.	<i>Mentha arvensis</i> L.; Rimi 084	Pudhima (Be)	Herb	August- October	Wet areas.	Leaves and tender stems taken in stomach problems.
32.	<i>Mentha x piperita</i> L.; Rimi 082	Nungshi hidak (Mei), Pudhima (Di), (Be)	Herb	September- November	Cultivated, in wet places, grasslands, ponds.	Leaves and tender stems taken in gastric problems, indigestion. Leaves used as condiments.
33.	<i>Microtoena patchouli</i> (C.B. Clarke ex Hook.f.) C.Y.Wu & S.J.Hsuan; Rimi 098	Sangbrei (Mei)	Herb	November- February	Cultivated.	Leaves boiled mixed with leaves of <i>Hyptis capitata</i> and applied as lotion in hair.

34.	<i>Mosla dianthera</i> (Buch.-Ham. ex Roxb.) Maxim.; Rimi 061	-	Herb	July-September	Marshy areas, near, roadsides, near paddy fields.	-
35.	<i>Ocimum africanum</i> L.; Rimi 011	Bahanda (Di), Mayangba (Mei), Lengser (Hm),	Herb	July- August	Wastelands, forest margins, cultivated.	Leaves paste applied on skin to cure boils. Leaves paste used for gas problems. Raw leaves and inflorescence used as condiments. Leaves fed to pigs when wounded or injured.
36.	<i>Ocimum americanum</i> L.; Rimi 014	Hagrani Tulsi (Di)	Herb	July- August	Wastelands, near paddyfields, roadsides.	-
37.	<i>Ocimum basilicum</i> L.; Rimi 010	Khelembra (Di), Naoseklai (Mei), Parsen (Hm),	Herb	November-February	Cultivated mostly.	Infusion taken for cough. Leaves cooked as vegetable with rice powder.
38.	<i>Ocimum gratissimum</i> L.; Rimi 019	Ban tulsi (Be), Tulsi gedeba (Di), Ram Tulasi (Mei)	Herb	July- February	Roadsides, waste areas.	Leaves paste used for typhoid fever, headache. Infusion of leaves given to children suffering from cold.
39.	<i>Ocimum tenuiflorum</i> L.; Rimi 099	Tulasi or Tulsi (Mei), Tulsi (Di), (Be)	Herb	July- March	Cultivated.	Crushed leaves with honey for cough. Leaf grinded and put into eyes for soreness. Leaves are offered during religious offerings.
40.	<i>Perilla frutescens</i> (L.); Rimi 057	Shenem (Di)	Herb	July-October	Shady places near forests, Cultivated.	Roasted seeds used as condiments, in making chutneys.
41.	<i>Plectranthus sautellarioides</i> (L.) R.Br.; Rimi 061	Mana hidak (Mei)	Herb	September- November	Cultivated.	Leaves crushed and applied on bruises, cuts. Grown in gardens for its colourful foliage.
42.	<i>Pogostemon auricularius</i> (L.) Hassk.; Rimi 009	Sam berma (Di)	Herb	March- October	Moist areas near paddy fields, stream sides, grasslands.	Leaf juice applied in wound or bruises.
43.	<i>Pogostemon benghalensis</i> Kuntze; Rimi 073	Sukloti (Be)	Shrub	March-July	Roadsides, evergreen forests.	Leaves pounded applied on forehead for headaches, coughs.
44.	<i>Premna bengalensis</i> C.B.Clarke; Rimi 088	-	Tree	May- September	Evergreen forests, near river banks.	In making house posts etc.
45.	<i>Premna cordifolia</i> Roxb.; Rimi 079	-	Tree	April- July	In primary or secondary evergreen forests.	-
46.	<i>Premna coriacea</i> C.B.Clarke; Rimi 100	-	Shrub	April-May	Near streams.	-
47.	<i>Premna corymbosa</i> Rottler & Willd.; Rimi 078	-	Tree	March- September	Plain areas.	-
48.	<i>Premna longifolia</i> Roxb.; Rimi 101	-	Tree	March-June	Evergreen forest.	-
49.	<i>Premna mollissima</i> Roth; Rimi 102	-	Shrub	November- February	Evergreen forest.	-
50.	<i>Premna milleflora</i> C.B.Clarke; Rimi 103	-	Tree	April- December	Evergreen forest.	-
51.	<i>Premna scandens</i> Roxb.; Rimi 106	-	Shrub	May-October	Evergreen forest, grasslands.	-

52.	<i>Rothea serrata</i> (L.) Steane & Mabb.; Rimi 055	Mismao kashiba (Di)	Shrub	August- January	Hill slopes, grasslands, river banks.	Leaves boiled and eaten as vegetable.
53.	<i>Salvia coccinea</i> Buc'hoz ex Etl.; Rimi 104	-	Herb	May- November	Cultivated.	Grown in gardens
54.	<i>Salvia plebeia</i> R.Br.; Rimi 110	-	Herb	Mar- August	River banks, paddy fields, ponds.	-
55.	<i>Scutellaria discolor</i> Colebr.; Rimi 089	Yenakhat (Mei)	Herb	September- January	Moist places on hills.	-
56.	<i>Sphenodesme involucreta</i> B.L.Rob.; Rimi 077	-	Climber	November- June	Mixed forests.	-
57.	<i>Sphenodesme petandra</i> Jack; Rimi 078	-	Shrub	December- April	Moist ground, marshy areas.	-
58.	<i>Tectona grandis</i> L.f.; Rimi 075	Chinsu (Mei), Segun (Di), (Be)	Tree	June- October	Cosmopolitan.	Decoction of leaves taken for irregular menstruation. For making furniture, construction etc.
59.	<i>Teucrium viscidum</i> Blume; Rimi 081	-	Herb	April - July	Roadsides, moist forests, hill slopes.	Leaves crushed and used to stop bleeding from wound.
60.	<i>Vitex altissima</i> L.f.; Rimi 086	-	Tree	March- July	Open forests.	-
61.	<i>Vitex negundo</i> L.; Rimi 021	-	Tree	December- April	River banks, near paddy fields, moist places.	-
62.	<i>Vitex peduncularis</i> Wall.; Rimi 086	-	Tree	March- September	Mixed forest near water bodies.	-
63.	<i>Vitex pinnata</i> L.; Rimi 107	-	Tree	November- July	Forested areas near banks of streams.	-
64.	<i>Volkameria inermis</i> L.; Rimi 069	-	Shrub	June - September	Cultivated as ornamentals.	Grown in gardens.



It has also been found that *Clerodendrum indicum* and *C. inerme* are grown as hedge plants by some household in the area. The present study shows that the Lamiaceae members are among the most useful plant families and have significant role in the day-to-day life of the local communities. The uses of these species have also been reported by other workers from different parts of the region and country (Khomdram et al., 2011; Bisht et al., 2012; Ralte and Singh, 2024). Besides, the industrial and medicinal uses of the species like *Ocimum* spp., *Mentha* spp., *Pogostemon* spp. etc. are well reported by previous workers (Dhyani et al., 2019; Kowalczyk et al., 2023; Wei et al., 2024). Some of the species used by the communities have been found frequently sold in the local markets which sustain the rural livelihood. The local commercial values of the species like *Elsholtzia griffithii*, *Perilla frutescens*, *Clerodendrum glandulosum*, *Leucas aspera* etc. have been documented by other workers (Khomdram et al., 2019; Gajurel et al., 2022).

#### 4. Conclusion

A total of 64 species of Lamiaceae have been recorded from the different parts of the Barak Valley Region of Assam covering diverse habitats. The distributional patterns of the Lamiaceae members in different habitats have been observed and found that they prefer mostly open sunny places rather than under dense canopy. Many of these species are found to be ethnobotanically useful and are used by the indigenous communities. Among the 64 species identified, 32 species are found useful which fulfill different needs of the indigenous communities. Due to the high degree of aromatic and medicinal qualities of the Lamiaceae species, they are widely used either as aromatic oil source, medicine, food or as ornamental plants traditionally and culturally. Present study also revealed that to fulfil the local medicinal needs, local residents collect these species from the natural habitat. Some of the essential oil-bearing species have been identified as the potential for commercialization. Those economically viable species should be domesticated and cultivated on a large scale to meet the rising demand which will also help in the conservation of the species.

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#### Contribution of Authors

The first author has collected the data and drafted the manuscript. The second author designed the concept of study analyzed the data and finalized the manuscript. The third author has analyzed the data and support the drafting the manuscript.

#### Conflict of Interests

The authors declare that there is no conflict of interest.

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