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# Traditionally used medicinal Plants of Bajali Subdivision, Barpeta District, Assam

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#### Abstract

The present ethnobotanical exploration documents about seventy six (76) different kinds of traditionally used medicinal plants in Bajali sub-division area, Barpeta, Assam. Out of these 76 phyto species 25% herbs, 34.21% shrub, 30.26% tree, 5.26% climber, 3.95% grass and 1.32% under tree grass category plants (Based on life forms). And maximum phyto species are used against different affliction, such as cough, diarrhoea, dysentery, jaundice, menstrual problem, piles, snakebite, diabetes, tonsillitis, blood purification, asthma, fever and skin diseases etc. The most important medicinal plant families were Asteraceae, Lamiaceae, Rutaceae, Apocynaceae, Araceae, Poaceae, Solanaceae and Piperaceae.

Keywords: Ethnobotany, Bajali, folk healers, Medicinal plants, Assam.

#### 1. Introduction

Medicinal plants perform a very dynamic and a supporting role in human health sector since the dawn of civilization. India has a long, rich, cultural and biological diversity. Different plant parts those are used for the medical cure purpose has been developed in a very ancient era. After the Vedas, there is no information on the development of ethnobotany science in India for a period about 1000 years. Then, came the two most important works on the Indian system of Medicines in the age of the Charak and Susruta (2500 B.C. to 600 B.C.) written to pre Buddhist period. After that, important of the ethnobotany studies were again realized and studied during the British period and since then many workers have attempted to find out the ethnobotanical sources of medicinal plants through the help of folk healer. Ethno medicine practices, is mainly based on tradition and orally used different kinds of plants and plant parts. Generally, indigenous botanical medicinal practices are very popular in third world countries, where modern and sophisticated health services is limited. According to the WHO, 80% of the rural population in third world countries used different kinds of locally available medicinal plants parts to cure of primary diseases. It is estimated that about 64% of the total globe's population depend on traditional medicine [9]. North east part of India is one of the most important hotspot in the world not only floral and faunal biodiversity but also different traditional cultural point of view. Ethno botanical studies in Indian region are well documented. In India, approximately 2500 species as having medicinal value [16]. In Assam there are more than 200 medicinal plants have got very good proficient value despite their wide uses in the country itself [2]. In, Assam ethno botanical study can be traced back to Kanjilal U N [11], Bhattacharya S, Tiwari K C, Mazumdar R and Misra A K, [1], Hajra P K and Boissya A K [5], Borthakur S K, [3], Barua K N, Barua I C and Das M [4], Das N J, Saikia S P, Sarkar S & Devi K [6], Das A Jyoti et al. [7], and Swargiary A, Boro H, Brahma B K, Rahman S [8] who have worked on ethnobotany studies in Assam. The main objective of this study was found out the different plant variety of traditionally used medicinal plants in Bajali Subdivision area.

# 2. Materials and Methods2.1 Study area

The study area Bajali sub-division, Assam is located between longitude of  $26^{0}29'$  to  $26^{0}33'$  E and latitude  $91^{0}09'$  to  $91^{0}15'$  N. Topography of the Bajali sub-division varies from low-lying plains to highland having small-mounds. The climate of Bajali sub-division is distinctly divided into three seasons, summer (March to May), winter (October to February) and monsoon (June to September).

The average annual rainfall ranges from 385 to 410 cm.

The soil of Bajali sub-division is classified as Sandy, Sandy loam and forest soil. Bajali sub-division comprise of 187 villages. Most of plants were collected from Bagapara, Balipara, Bamunkuchi, Bangaon, Barbang, Belona, Bhogpur, Dubi, Dumuria, Garemari, Gobindapur, Jalikhata, Kharadhara, Muguria, Pipla, Raipur, Titka etc. And different communities viz, Kalita, Koch, Boro, Kosari, Rajbonshi, Nath, Brahmin etc. are lives in those villages.

#### 2.2 Methods of Study

Ethnobotanical studies were conducted in the 187 villages of Bajali subdivision from 2013 December to 2014 December. All villages were regularly visited and all Ethnobotanical data were recorded through personal interviews. Personal

interviews were conducted with the knowledgeable persons, viz. village men, Vaidyas, Baj, Ojha, Kabiraj and different tribal folk healers. All information regarding traditional ethnobotanical practices were documented on survey data sheet. And the documentation of the information given by Vaidyas, Baj and tribal folk healers were documented under following heads a. Name of disease, b. Local Name of the plant, c. Plant part used, d. Habit of the plant and e. Preparation and application of Drugs.

#### 2.3 Collection and identification of Medicinal Plants

Plant sample and plant parts were collected during the survey was preserved as herbarium specimens or voucher specimens. The plant samples were identified with the help of [10, 12, 13, 14, 12]

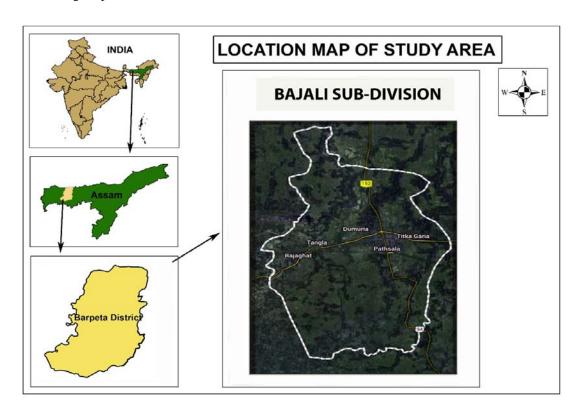


Fig 1: Study area and sampling sites

#### 3. Results and Discussion

In the present study, it was found that a total 76 plant's species belonging to 45 families and 69 genera were frequently used in Bajali sub-divisional area. Based on life forms there are 25% herbs, 34.21% shrub, 30.26% tree, 5.26% climber, 3.95% grass and 1.32% under tree grass category. Out of these 76 plants species 2 belongs to family Acanthaceae followed by Rutaceae (4), Asteraceae (5), Apocynaceae (4), Araceae (3), Liliaceae (1), Amaranthaceae (2), Rubiaceae (2), Meliaceae (1), Arecaceae (2), Papavaraceae (1), Poaceae (3), Scrophulariaceae (1), Basellaceae (1), Bombacaceae (1), Crassulaceae (1), Solanaceae(3), Fabaceae (2), Apiaceae (1), Chenopodiaceae (1), Vitaceae (1), Lauraceae Papilionaceae (1), Zingiberaceae (2), Dilleniaceae (1), Malvaceae (1), Saururaceae (1), Araliaceae (1), Balsaminaceae (1), Convolvulaceae (1), Lythraceae (1), Lamiaceae (5), Anacardiaceae (1), Musaceae (1), Oleaceae (1), Bignoniaceae (1), Oxalidaceae (1), Piperaceae (3), Euphorbiaceae (2), Myrtaceae (2), Punicaceae (1), Caesalpinaceae (1), Combretaceae (2), Menispermaceae (1) and Verbenaceae (1).

The botanical name, family, local name, parts of used and habit of plants are briefly describe below.

### 1. Adhatoda vasica (Nees.)

Family: Acanthaceae, Plant habit: Shrub.

Local Name: Boga bakhartita

**Use**: Leaf juice is used to control cold and cough. Flowers are used as vegetable for blood purification.

# 2. Aegle marmelos (Linn.)

Family: Rutaceae, Plant habit: Tree.

Local name: Bel

**Use:** Leaf juice is externally in abscess. Root are used in seminal weakness, diarrhoea etc. and ripe fruit is used as tonic in indigestion.

# 3. Ageratum conyzoides (Linn.)

Family: Asteraceae, Plant habit: Herb.

Local name: Jat tita

**Use:** Leaf is used in cuts and wounds to stop bleeding. It is also used to control cold and fever.

4. Allamanda cathartica (Linn.)

Family: Apocynaceae, Plant habit: Shrub.

**Local name:** Ghonta phul

Use: Leaf is used against the abdominal pain and also used in

jaundice.

5. Alocasia indica (Lour)

Family: Araceae, Plant habit: Herb.

Local name: Mankachu

Use: Cooked rhizomes are used in tonsillitis.

6. Aloe vera (Linn.)

Family: Liliaceae, Plant habit: Shrub.

Local name: Salkuwari

Use: Leaf is used in skin problem also used in skin burn and

leaf juice is used in stomach problems.

7. Amaranthus bicolour (Linn.)

Family: Amaranthaceae, Plant habit: Herb.

Local name: Bishalyakarani

Use: Leaves paste used in stops bleeding in cut.

8. *Amaranthus spinosus* (Linn.)

Family: Amaranthaceae, Plant habit: Shrub.

Local name: Katakhutura

Use: The plant juice is used in gastric trouble, burning, during

sensation during urination and antifertility.

9. Anthocephalus cadamba (Roxb)

Family: Rubiaceae, Plant habit: Tree.

Local name: Kadam

Use: Bark is used in dysentery, fever and cholera.

10. Azadirachta indica (Juss)

Family: Meliaceae, Plant habit: Tree.

Local name: Neem

Use: Used as various kinds of skin disease, root is used in diarrhoea; leaf juice is used in control threadworm also used as

blood purification.

11. Areca catechu (Linn.)

Family: Arecaceae, Plant habit: Tree.

Local name: Tamol

Use: Root paste with citrus medica and piper longum is used

ın sthma.

12. Argemone mexicana

Family: Papavaraceae, Plant habit: Shrub.

**Local name:** Shiyal kata

Use: Plant latex is used in different kinds of skin diseases.

13. Bambusa tulda (Roxb)

Family: Poaceae, Plant habit: Tree Grass.

Local name: Jati bah

Use: Little bit heated shoot used in different kinds of teeth and

gum problems.

14. Bacopa monnieri

Family: Scrophulariaceae, Plant habit: Herb.

Local name: Brahmi

Use: All parts of plant is used as blood purifier, and leaf juice

is used as memory booster.

15. Basella alba (Linn.)

Family: Basellaceae, Plant habit: Climber.

Local name: Puisaak

**Use:** Leaf juice used in piles, during labour pain its whole plants is used.

16. Borassus flabellifer (Linn.)

Family: Arecaceae, Plant habit: Tree.

Local name: Tal

**Use:** Fruit juice is used for intestinal worm.

17. Bombax ceiba (Linn.)

Family: Bombacaceae, Plant habit: Tree.

Local name: Simalu

Use: Flowers are used in anemia and sexual problems.

18. Bryophyllum pinnatum (Oken)

Family: Crassulaceae, Plant habit: Shrub.

Local name: Pategaja

Use: Leaf juice is used in urinary stone, urinary problems and

blood dysentery.

19. Capsicum frutescens (Linn.)

Family: Solanaceae, Plant habit: Shrub.

Local name: Kud-jolokia

Use: Fruit is used in tonsillitis and dysentery.

20. Cassia occidentalis (Linn.)

Family: Fabaceae, Plant habit: Shrub.

Local name: Medelwa

Use: Leaf juice is used for nervous disorder and leaves paste is

used in skin diseases.

21. Cassia tora (Linn.)

Family: Fabaceae, Plant habit: Shrub.

Local name: Bon medelwa

Use: Leaves past is used against ring worm, roots are used

against snakebite.

22. Catharanthus roseus (Linn.)

Family: Apocynaceae, Plant habit: Shrub.

Local name: Nayantora

Use: Juice of the plant is used with honey for cancer. Flower

paste is used in insect bite.

23. Centella asiatica (Linn.)

Family: Apiaceae, Plant habit: Herb.

Local name: Bor manimuni

Use: The plant leave is used as brain tonic. Leaves juice is

used in dysentery.

24. Chenopodium album (Linn.)

Family: Chenopodiaceae, Plant habit: Shrub.

Local name: Voutha saag

Use: Plant juice is used in piles and dysentery.

25. Cissus quadrangularis (Linn.)

Family: Vitaceae, Plant habit: Shrub.

Local name: Har-jora lota

Use: Whole plant paste is used in bone fracture. Shrub

26. Citrus aurantifolia

Family: Rutaceae, Plant habit: Tree.

Local name: Kaji nemu.

Use: Fruit is used in vomiting and fruit juice is used in

diarrhoea.

27. Citrus paradise

Family: Rutaceae, Plant habit: Tree.

Local name: Golnemu

Use: Flower juice is used in cataract; fruit juice is

used in dysentery.

28. Cinnamomum tamala

Family: Lauraceae, Plant habit: Tree.

Local name: Tejpat

Use: Bark is used for gonorrhoea.

29. Clitoria ternatea (Linn.)

Family: Papilionaceae, Plant habit: Shrub.

Local name: Aparajita

Use: Whole plant juice is used as brain tonic.

Root is used in asthma problem.

30. Colocasia esculenta (Schott) Family: Araceae, Plant habit: Herb.

Local name: Kola kouchu

Use: Leaf petiole is used in jaundice and petiole

juice is used in cut and wounds.

31. Costus speciosus (koen.)

Family: Zingiberaceae, Plant habit: Herb.

Local Name: Jamlakhuti

Use: Rhizome paste is used in different kinds of skin diseases.

Leaves juice is used in otitis (middle ear) problem.

32. Curcuma domestica

Family: Zingiberaceae, Plant habit: Herb.

Local Name: Haladhi

**Use:** Fresh juice is commonly used in chicken pox; rhizome paste is used in an antiseptic. Plant juice with honey is used in

cough and fever.

33. Cymbopogon flexuosus

Family: Poaceae, Plant habit: Grass.

Local Name: Citronella

Use: Leaves juice is used in different kinds of skin diseases.

34. Cynodon dactylon (Pers.)

Family: Poaceae, Plant habit: Grass.

Local Name: Duburi bon.

Use: The plant paste is used to stop bleeding from cut and injuries. Plant juice is used to stop over bleeding during

menstruation cycle in female.

35. Datura stramonium (Linn.)

Family: Solanaceae, Plant habit: Shrub.

Local Name: Boga dhotura

Use: It is used in asthma, the juice of its fruit is used for to

treat dandruff and falling hairs.

36. *Dillenia indica* (Linn.)

Family: Dilleniaceae, Plant habit: Tree.

Local Name: Outenga

**Use:** Fruit juice is used to prevent different kinds of skin diseases. Fruit juice is also used to increase the quantity of

semen.

37. Enhydra fluctuans (Lour.)

Family: Asteraceae, Plant habit: Herb.

Local Name: Helochi

Use: The plant juice is used in eye diseases with goat milk.

Plant whole parts are used in high blood pressure.

38. Eryngium foetidum (Linn.)

Family: Asteraceae, Plant habit: Herb.

Local name: Man dhania

Use: Leaf juice is used on fore-head in headache.

39. Hibiscus rosa-sinensis (Linn.)

Family: Malvaceae, Plant habit: Shrub.

**Local name:** Joba phul

**Use:** Leaf juice is used for hair was to remove hair dandruff.

40. Houttuynia cordata (Thunb.)

Family: Saururaceae, Plant habit: Herb.

Local Name: Mesendari

Use: Half boil leaves is used in chronic dysentery. Leaf is also

used in stomach trouble and urinary problems.

41. Hydrocotyle sibthorpioides

Family: Araliaceae, Plant habit: Herb.

Local Name: Saru manimuni

Use: Plant juice is used in the fever and root juice of the plant

with Musa sapientum is also used in piles.

42. Impatiens balsamina (Linn.)

Family: Balsaminaceae, Plant habit: Shrub.

Local Name: Keruphul

Use: Leaves juice is used in haematuria, nails injury.

43. *Ipomoea aquatic* (Forsk.)

Family: Convolvulaceae, Plant habit: Herb.

Local Name: Kalam sak

Use: Leaves juice is used in nervous disorder and ring worm.

44. Lasia spinosa (Thw.)

Family: Araceae, Plant habit: Herb.

Local Name: Chengamur

Use: Root is used in throat problems; boiling root juice is used

in piles.

45. Lawsonia inernies (Linn.)

Family: Lythraceae, Plant habit: Tree.

Local Name: Jetuka

Use: Leaf paste is used in to cure skin diseases and burns.

Flower paste in forehead during headache.

46. *Leonurus japonicas* (houtt.)

Family: Lamiaceae, Plant habit: Herb.

Local Name: Ronga doron

Use: Plant juice used in menstruation disorders.

47. Leucas aspera

Family: Lamiaceae, Plant habit: Herb.

**Local Name:** Doron

Use: Leaves juice is used in sinusitis problems.

48. Mangifera indica

Family: Anacardiaceae, Plant habit: Tree.

Local Name: Aam

Use: Flower juice is used in chronic dysentery and seeds juice

used in piles.

49. Mentha arvensis

Family: Lamiaceae, Plant habit: Herb.

Local Name: Padina.

Use: Leaves juice is used in nasal bleeding and leaves paste is

used in face skin problem.

50. Murrya koenigii (Linn)

Family: Rutaceae, Plant habit: Tree.

Local Name: Narosingho

Use: Leaf is used in diabetes and anaemia.

51. Musa gigantea

Family: Musaceae, Plant habit: Tree.

Local Name: Athiyakal

**Use:** Inflorescence in used in low blood pressure. Ripe fruit juice is used in dysentery and diarrhoea.

52. *Nyctanthes orbor-tristis* (Linn). **Family:** Oleaceae, **Plant habit:** Tree.

Local Name: Sewali phul

Use: Leaves used in cough. Flower is taken as appetizer.

53. *Ocimum basilicum* (Linn.)

Family: Lamiaceae, Plant habit: Shrub.

Local Name: Bor tuloshi

Use: Root juice is used in liver weakness and leaves paste is

used in skin diseases.

54. Ocimum sanctum (Linn.)

Family: Lamiaceae, Plant habit: Shrub.

Local Name: Tuloshi

Use: Leaf juice is used in cough and fever.

Root juice is used in malaria.

55. Oroxylum indicum

Family: Bignoniaceae, Plant habit: Tree.

Local Name: Ding dinga

Use: Bark juice is used in jaundice. Root paste is used in

arthritis and chest pain.

56. Oxalis corniculata (Linn.)

Family: Oxalidaceae, Plant habit: Herb.

Local Name: Tengesi sak

Use: Plant juice is juice in dysentery and diarrhoea.

57. Paederia foetida (Linn.)

Family: Rubiaceae, Plant habit: Climber.

Local Name: Pad vedeli

Use: Leaves decoction is used in dysentery,

diarrhoea and acidity.

58. Peperomia pellucida

Family: Piperaceae, Plant habit: Herb.

Local Name: Purnonuwa

Use: The plant juice is used in stomach problems.

Leaves paste is used in cut and wounds.

59. Phlogacanthus tubiflorus (Nees.)

Family: Acanthaceae, Plant habit: Shrub.

Local Name: Ranga bakhartita

Use: Leaf juice is used to control cold and cold. Leaf crush is

used against louse and nit.

60. Phyllanthus acidus (Linn)

Family: Euphorbiaceae, Plant habit: Tree.

Local Name: Halphali

Use: Fruit is taken as liver tonic and blood purification.

61. Phyllanthus niruri (Linn.)

Family: Euphorbiaceae, Plant habit: Shrub.

Local Name: Bhui amlokhi

Use: The root juice with milk is used in jaundice.

Leaves paste is used on wounds.

62. Piper betel (Linn.)

Family: Piperaceae, Plant habit: Climber.

Local Name: Pan

**Use:** Leaves paste is used to stop bleeding from cut. Leaves paste with ghee (Clarified butter) is used in piles.

63. Piper nigrum (Linn.)

Family: Piperaceae, Plant habit: Climber.

Local Name: Jaluk

Use: Dried fruit powder with tea is used in cough.

64. *Plumeria rubra* (Linn.)

Family: Apocynaceae, Plant habit: Tree.

Local Name: Gulanch

Use: Flower fry is used in cough.

65. Psidium guajava (Linn.)

Family: Myrtaceae, Plant habit: Tree.

Local Name: Maduhrium

Use: Young leaves juice used in dysentery and gastric ulcer.

66. Punica granatum (Linn.)

Family: Punicaceae, Plant habit: Tree.

Local Name: Dalim

Use: Fruit juice is used in anemia. Bark juice with honey is

used to control cough.

67. Saraca asoca (Roxb.)

Family: Caesalpinaceae, Plant habit: Shrub.

Local Name: Ashok

Use: Flower juice is used in diabetes and skin diseases.

68. Solanum xanthocarpum

Family: Solanaceae. Plant habit: Shrub.

Local Name: Katahi bengna

Use: Leaves juice is used in stomach pain; root juice is used to

increase the semen quantity.

69. Spilanthes paniculata

Family: Asteraceae, Plant habit: Grass.

Local Name: Suhanibon

Use: Flowers are used in gum pain and tongue problem.

70. Syzygium cuminii

Family: Myrtaceae, Plant habit: Tree.

Local Name: Jam

Use: Leaves juice is used in dysentery and diarrhea. Seed is

useful for diabetes. Fruit juice used in bleeding piles.

71. Tabernaemontana coronaria

Family: Apocynaceae, Plant habit: Shrub.

Local Name: Kathanda

Use: Leave paste is used in externally headache. Flower juice

is used in cataract and eye diseases.

72. Tagetes erecta (Linn.)

Family: Asteraceae, Plant habit: Shrub.

Local Name: Gendhemaloti

Use: Crushed leaf is used in cut and wounds.

73. Terminalia arjuna

Family: Combretaceae, Plant habit: Tree.

Local Name: Arjun

**Use:** Fresh leaf juice is used in ulcer. Bark decoction with milk is used in heart complaints. Bark paste is used in bone fracture.

#### 74. Terminalia chebula

Family: Combretaceae, Plant habit: Tree.

Local Name: Silikha

Use: Bark decoction used in stomach pain.

Fruit juice is used as blood purifier.

# 75. Tinospora cordifolia

Family: Menispermaceae, Plant habit: Shrub.

Local Name: Amorlata

Use: Stem juice is used as antidiabetic and also used in fever.

# 76. Vitex negundo (Linn.)

Family: Verbenaceae, Plant habit: Shrub.

Local Name: Pachatia

Use: Leaf juice is used in fever and body weakness. The

leaves paste is also used in hair as a hair shiner.

**Table 1:** List of families with number of Medicinal plants From Bajali Sub-division, Assam.

Sl No.	Family	No. of Species	
1	Acanthaceae	2	
2	Rutaceae	4	
3	Asteraceae	5	
4	Apocynaceae	4	
5	Araceae	3	
6	Liliaceae	1	
7	Amaranthaceae	2	
8	Rubiaceae	2	
9	Meliaceae	1	
10	Arecaceae	2	
11	Papaveraceae	1	
12	Poaceae	3	
13	Scrophulariaceae	1	
14	Basellaceae	1	
15	Bombacaceae	1	
16	Crassulaceae	1	
17	Solanaceae	3	
18	Fabaceae	2	
19	Apiaceae	1	
20	Chenopodiaceae	nopodiaceae 1	

21	Vitaceae	1	
22	Lauraceae	1	
23	Papilionaceae	1	
24	Zingiberaceae	2	
25	Dilleniaceae 1		
26	Malvaceae	1	
27	Saururaceae	1	
28	Araliaceae	1	
29	Balsaminaceae 1		
30	Convolvulaceae	1	
31	Lythraceae	1	
32	Lamiaceae	5	
33	Anacardiaceae	1	
34	Musaceae	1	
35	Oleaceae	1	
36	Bignoniaceae	1	
37	Oxalidaceae	1	
38	Piperaceae	3	
39	Euphorbiaceae	2	
40	Myrtaceae	2	
41	Punicaceae 1		
42	Caesalpiniaceae	1	
43	Combretaceae	2	
44	Menispermaceae	1	
45	Verbenaceae	1	
Total		76	

Table 2: Distribution of plant habits in Bajali Sub-division

Sl No.	Plants habits	No. of species	Percentage
1	Herb	19	25.00%
2	Shrub	26	34.21%
3	Tree	23	30.26%
4	Grass	3	3.95%
5	Tree Grass	1	1.32%
7	Climber	4	5.26%
	Total	76	100.00%

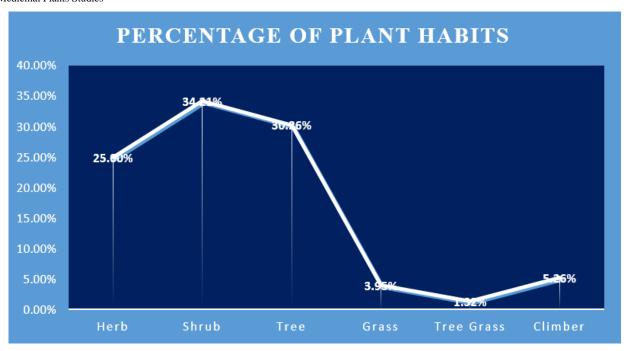


Fig 2: Habit pattern of different Plant species recorded from Bajali Subdivision



Fig 3: Ageratum conyzoides



Fig 4: Amaranthus spinosus



Fig 5: Amarantus bicolour



Fig 6: Bacopa monnieri



Fig 7: Basella alba



Fig 8: Bombax ceiba



Fig 9: Bryophyllum calycinum



Fig 10: Cassia occidentalis



Fig 11: Costus specious



Fig 12: Houttuynia cordata



Fig 13: Oroxylum indicum



Fig 14: Oxalis corniculata



Fig 15: Vitex negundo



 $\textbf{Fig 16:}\ Taberna emontana\ coronaria$ 



Fig 17: Spilanthes paniculata



Fig 18: Solanum xanthocarpum



Fig 19: Plumeria rubra



The present study reveals that traditional ethnobotany practices still play a very important role in villages in Assam. Ethnobotany practise not only play an important role of primary health care but also play a vital role of conservation of phytodiversity and cultural diversity. The information regarding traditional medicinal plants gaining from the different communities of Bajali sub-division is useful for further ethno- pharmacology microbial studies.

### 5. Acknowledgment

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Fig 20: Phyllanthus acidus

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