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Review Article

A Systematic Overview on Some of the Traditionally Used Plants of Assam

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ABSTRACT

Assam is a state of the North Eastern part of India. There are different types of plants well distributed in various parts of the state. These plants have various medicinal properties and are used traditionally to cure diseases because of its fewer side effects. A large number of surveys have been documented about different kinds of traditionally used plants of Assam. The purpose of this Study is to do a Systematic overview on various aspects like its taxonomical characters, geographical habitat, Cultivation along with its physicochemical constituents, Pharmacological and medicinal properties so that it can be useful to treat the various diseases efficiently. Various traditional plants such as *Carica papaya*, *Cocos nucifera*, *Murraya koenigii*, *Ocimum sanctum*, *Musa paradisiaca*, *Averrhoa carambola*, *Aegle marmelos*, *Azadirachta indica*, *Citrus limonum*, *Psidium guajav*, *Hibiscus rosa sinensis*, *Catharanthus roseus*, *Trichosanthes dioica*, *Cynodon dactylon*, *Brassica rapa* were reviewed.

Keywords: Assam, plants, Physicochemical constituents, Pharmacological and Medicinal uses.

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Introduction:

The state of Assam located in the north-eastern part of India. Assam is well known for its rich source of various medicinal plants. Traditionally various types of herbs are used for the treatment of various types of disease. Some of the traditional groups of people living in remote forest areas of the state are still using various identified and unidentified plant species and also they are using their indigenous knowledge system of medicine in the process of treatment. As the medicinal plants are easily accessible, affordable by the poor people and it is culturally appropriate sources for the primary health care system. Poor and financially weak people are dependent on these types of familiar, simple effective remedies. At present time there is a need to spread our interest to use the traditional healthcare system. [2,6,7]

In most of the cases it was found that the use of synthetic antibiotics is unnecessary or questionable. Consumption of antibiotics is finally leads to bacterial resistance. Therefore it is necessary to depends on some of the naturally occurring plant compounds which can kill antibiotic-resistant strains of bacteria effectively. The materials originating from the plant are very much safe and have less side effects. WHO reports 80% of the world population relies on the drug from the natural origin. The present study is concerning about the Systematic overview on some of the traditionally used plants of Assam. It is very difficult to discuss about the various herbs which are traditionally used in Assam, so only 15 herbs are chosen for the study.[9,16]

1. *Carica papaya* :[1]

Papaya is a powerhouse of nutrients. Its botanical name is *Carica papaya* and belongs to the

family: *Caricaceae*, Traditional names are Papaya, Kates. Leaves, Fruits and bark are the various parts which are used traditionally. This plant is widely cultivated for its edible pleasant fruits. The papaya is a tree contains a single stem growing upto 5 to 10 m (16 to 33 ft) tall. *C. papaya* is a very good source of antioxidant, vitamin C, A and E. It contains various minerals like magnesium, potassium, B vitamin folate, pantothenic acid. It also contains a digestive enzyme like papain which treats the causes of trauma, allergies and various sports injuries. Because of the presence of fibre Papaya helps in lowering high cholesterol level. It is used as medicine for dyspepsia, hyperacidity, dysentery. Papaya also helps in the digestion of proteins. Consuming of ripe fruit in regularly basis helps in the treatment of constipation. It also helps to prevent the premature aging.

1.1. Phytochemical Constituents: It contains flavonoids, terpenoids, alkaloids, carbohydrates, glycosides, Saponin and steroids.

1.2. Pharmacological and Medicinal uses: As it contains all the kinds of nutrients the whole *Carica papaya* plant has a unique uses like

Leaves: Used in Dengue fever, Cancer Cell Growth Inhibition, Antimalarial, helps in Digestion.

Fruit: Used as Laxative, for Indigestion, control of Heart Attack or Stroke.

Seeds: Used for Nephro Protective activity, as antibacterial effective against Salmonella, E. coli, and Staphylococcal infections. It also helps in detoxification process of the liver.

Peel: Used as Sunscreen material and as muscle Relaxant.

Roots: Juice of papaya roots is used in some countries of Asia for the treatment of urinary troubles, it is also used medicinally in various diseases, Such as Colon cancer, Rheumatoid Arthritis, Prevent Prostate Cancer, Gastrointestinal diseases and also used as Anti-inflammatory.

2. *Cocos nucifera* :[2]

The coconut palm (*Cocosnucifera*) belongs to the family *Arecaceae*. The coconut is different from any other fruits because they contain a large amount of "water" and they are known as tender-nuts or jelly-nuts while in immature period and harvested for drinking. The coconut flesh is called copra in dried form. The oil and the milk are commonly used in cooking. Oil is also widely used in manufacturing of soaps and cosmetics. The

liquid of coconut water is a very good refreshing drink. It also has cultural and religious importance. It is available in the various tropical and subtropic areas. Coconuts is a part of the daily diets of many people specially in India. The coconut is cultivated in various states of India such as Kerala, Tamil Nadu, Puducherry, Andhra Pradesh, Karnataka, Goa, Odisha and the islands of Andaman and Nicobar, Lakshadweep, West Bengal and those in the northeast region (Tripura and Assam).

2.1. Phytochemical Constituents: It contains alkaloids, tannins, resins, Saponins, glycosides, Terpenoids, steroids. The macronutrients like carbohydrate, fats and oils are present in high concentration while reducing sugar and proteins are present in moderate concentration.

2.2. Pharmacological and Medicinal uses: The lauric acid present in coconut is metabolized and converted into monolaurin in the human body. Monolaurin has antifungal, antibacterial, antiprotozoal and antiviral properties. It is helpful to destroy lipid-coated viruses such as, HIV, herpes, influenza and various pathogenic bacteria including *Listeria*

monocytogens, *Helicobacter pylori* and protozoa such as *Giardia lamblia* in the human body. Used medicinally as antihypertensive, analgesic, vasodilation, it gives protection of kidney, heart and liver, use as anti-inflammatory, antioxidant, and in osteoporosis, antidiabetes, antineoplastic, antimalarial and leishmanicidal activities.

3. *Murraya koenigii* :[3]

Murraya koenigii, Family: *Rutaceae*, Common name: Curry Leaf (English), Karepaku (Andhra Pradesh), Narasingha (Assam), Kurry Patta (Hindi). The ancient histories of curry leaves were seen in early 1st to 4th century AD. *Murraya koenigii* is curry leaf which was originated from Tamil word "Kari" which means as spiced sauce. These are grown as the cultivated crop in India, Southeast Asia, Sri Lanka, Australia, Pacific Islands and Africa as flavouring agent for the food. Plants have flowers and vibrant green leaves throughout the spring, summer and in rain fall. The leaves drop off during the winter months. They are grown well in full sun, well-drained soil upto the height of about 4–8.7m (13–31 feet) tall, trunk diameter up to 81cm. The main stem diameter is about 16cm. The flowers of curry leaves are small, funnel-shaped, white fragrant and green in colour. Curry flowers have a sweet fragrance. Curry leaves have a specific aroma. Fruits of the *Murraya koenigii* found in clusters in about 32 to 80 in number. The fruits are 1 to 1.2cm in the diameter with length 1.4 to 1.6cm. The fruits are purple black after ripening.

3.1. Phytochemical constituents: *Murraya koenigii* contains flavonoids, alkaloids, carbohydrates, sterol, nicotinic acid, vitamin C, carotene, Saponins and proteins. The essential oil of *Murraya koenigii* contains

D-Sabinene, D- α -Terpinol, D- α -phellendrene, D- α - pinene, caryophyllene and dipentene.

3.2. Pharmacological and Medicinal uses: *Murraya koenigii* has various pharmacological and medicinal use such as Anti Diabetic, Anti Trichomonal, For Oral health, Vasodilation, Anti Oxidation, Anti Cancer, Effect on Bronchial disorders, Anti helminthic, Anti-Amnesic, Protects the eyes and Improves Eyesight, Anti-Ulcer, Anti-Microbial, Anti-Diarrheal Immunomodulatory, Antipyretic, Cardio-Protective, Hepatoprotective, Anti-Alzheimer's and Anti-Inflammatory Activities .

4. *Ocimum sanctum*:[4]

Ocimum sanctum, Common names: Tulsi, holy basil, Family: *Labiatae*. The meaning of Tulsi is 'incomparable one' or 'matchless one' and is derived. It is erect, branched fragmented height of about 30- 60cm when mature, Its leaves are simple, aromatic, 5cm long, flowers are elongate purple in colour, seeds are radish yellow and fruits are small. It is planted after rainy season. Tulsi grows in tropical and warm areas. It grows in moist soil. Ayurveda doctors are recommending the all plant parts of Tulsi. Its fluid use as an Ayurvedic drug, Plant is used in various traditional and folk systems of medicine. The lukewarm concoction and extracts use as a detoxifying, cleansing, and purifying agent for both internal and external. Plant has great spiritual, medicinal and therapeutic value in Hinduism. Hindus regard it as goddess Tulsi. She is a great worshipper of the Lord Vishnu. Usually, plant leaves are offered in every ritualistic worship of Lord Vishnu and his incarnation Lord Krishna. The plant is cultivated for its essential oil. It is an erect, many-branched, 30-60 cm tall with hairy stems. Leaves have petioles measured up to 5 cm long.

4.1. Phytochemical constituents: Tulsi contains various phytochemical constituents. Seed contains

Linolenic acid, Linoleic acid, Palmitric acid, Oleic acid, Stearic acid. Leaves contains Benzaldehyde, Borneol, Bornyl acetate Camphor, Terpeneol, Cubenol, Cardinene, D-Limonene, Eicosane, Eucalyptol, Eugenol. The whole plant contains Vitamin C, Vitamin A, Calcium, Phosphorus, Chromium, Copper, Zinc and Iron.

4.2. Pharmacological and Medicinal uses: Out of various pharmacological and medicinal uses some of are describe below

Tulsi has anti-inflammatory properties, it used in various skin disorders like skin rashes, insect bites and itching. It is effectively used in ring worm infection also lucoderma. Fresh juice of *Tulsi* leaves is used in nasya karma. This technique helps to reduce headache and diseases of neck. Leaves also used as nerve tonic. As per Ayurveda *Tulsi* are useful in indigestion, intestinal parasites and constipation. Leaves of *Tulsi* are extremely helpful in reducing fever, cough, bronchitis. *Tulsi* also used as cardiac tonic and purifies blood. It have various properties like Anti-stress, Anti-inflammatory, Anti-fungal, Anti-fertility, Hepatoprotective, Antidiabetic, Anti-ulcer, Anti-microbial, Anti-psychotic, Anti-cancer, Antioxidant, Anti-arthritis, Anthelmintic and Analgesic.

5. *Musa paradisiaca* :[5]

Musa paradisiaca, family: Musaceae, common name: Banana. Banana is a tropical fruit grown in over 122 countries worldwide; various parts of the banana plants like roots, leaves, flowers have used different types of medicinal purposes. Banana is cultivated in entire world. Bananas have many health benefits, but most people enjoy eating bananas as well. It can be eaten alone or use as a fruit salad also made into a smoothie or milk shakes. They are one of the most easily available fruits in the marketplace and grown in entire year nearly everywhere in the world. It is available in various heights.

5.1. Phytochemical constituents: It contains various phytochemical active compounds like flavonoids, alkaloids, steroids, glycosides and saponins.

5.2. Pharmacological and Medicinal uses: Banana has several important uses which show various medical benefits. Bananas help in the retention of calcium, nitrogen, and phosphorus in the body. Bananas can be used in the treatment of intestinal disorders like ulcers. Ulcer patients can safely consume it. It neutralizes the acidity of gastric juices. The fruit is also used for the treatment of burns and wounds, beat a ripe banana into a paste and spreading over a burn or wound for immediate pain relief. Other medical benefits of bananas such as it help to treat constipation and diarrhoea relief, treatment of arthritis, anaemia. It is an excellent source of potassium and vitamins. It is beneficial for the bones and muscles in the human body. Stem is useful in dissolving the stones in of the kidney and urinary bladder. It has various activities like reduced risk of Stroke,

Cholesterol lowering effect, protection against Alzheimer's disease, energy and Immunity booster. It has Antiviral, Antifungal, Antimicrobial, Antihypertensive, Antilipedamic, Antioxidant, Anti Diabetic activity. Some of the traditional uses are the ripe fruit are laxative in nature when eaten in the morning. Can be useful as a excellent food for the anaemic people, having general weakness, jaundice, nervous breakdown, obesity, weak digestion and vitamin deficiency. Bananas useful in the treatment of some of the emotional and bodily sicknesses. They contain tryptophan, it is an essential amino acid useful in the production of serotonin,

which helps a person to relax, improve overall mood and feel happy. Bananas contain high amounts of iron, which helps stimulate the production of haemoglobin in the blood. In most of the Hindu temples and functions, bananas are distributed to devotees and visitors respectively.

6. *Averrhoa carambola* :[6]

Averrhoa carambola, Family: Oxalidaceae

Carambola is generally known as star fruit, it is known in Assamese language as Kordoi/ rohdoi.

Tropical and sub tropically grown star fruit is generally used as raw vegetable and ripe fruit. *Carambola* tree 3 to 5 m in height and reach a maximum height of 10 m, with a light brown bark and 15 to 20 cm long leaves, and the flowers are pink in color. Large yellowish green berry fruit of 5 to 8 cm long with a characteristic shape similar as a five pointed star. The *Carambola* mature trees can tolerate freezing temperatures for short periods. It is best grown in moisture condition. It is commonly grown in India, south china, Taiwan and cultivated in Malaysia and southeast Asia.

6.1. Phytochemical constituents: The *Carambola* fruit contains saponins, alkaloids, flavonoids and tannins. It also contains epicatechin, proanthocyanidins, gallic acid and L-ascorbic acid. The major sterols present in the fruits of *carambola* are β -sitosterol, campesterol, lupeol and isofucosterol. It also contains the fatty acids – palmitic, oleic, linoleic and linolenic acid. Stem and bark contains Galic acid, Anisaldehyde. Roots contain Lignins- Benzyl-1-O- β -D-glucopyranoside.

6.2. Pharmacological and Medicinal uses: It has various activities like Anti-inflammatory, Analgesic, Hypotensive, Anthelmintic, Anti-oxidant, Anti-ulcer, Antimicrobial, Antitumor. The traditional medicinal use of the ripe fruit of *Averrhoa carambola* in Ayurveda is as digestive tonic. The fruits are also used to treat mouth ulcer, throat inflammation, toothache, cough, asthma, hiccups. In India, the ripe fruit is administered to halt hemorrhages and to relieve bleeding haemorrhoids. The leaves of star fruit useful for the treat of stomach ulcers and also improves digestion. The grinded leaves or shoots are externally applied which helps in the treatment of chicken-pox, ringworm and headache. The boiled flowers are used as vermifuge, in fever and malaria.

7. *Aegle marmelos* :[7]

Aegle marmelos, Family Rutaceae. Common name: Bael, Bilva is also known as Bale. It is a moderate sized tree, 6.0 -7.5 m in height, found in the forests of India. It is grown to an altitude of 1200 meter in the western Himalayas and also found in Andaman Island. This is generally considered as holy tree by the Hindus, as its leaves are offered to Lord Shiva during worship. According to Hindu mythology, the tree is one of the incarnation of Lord Kailashnath. Fruit, leaves, stem and roots of the tree at all stages of maturity are used as ethno medicine against various human ailments. It is cultivated most of the part of India.

7.1. Phytochemical constituents: *Aegle marmelos* contains various constituents in leaf, Bark and fruits Leaf contain Lupeol, Cineol, Citral, Citronella, Eugenol. Bark contains Fagarine, Marmi. Fruit Luvangetin, Aurapteren, Psoralen, Tannin . It also contains alkaloids, cardiac glycoside, saponin, steroids, tannins, flavonoids.

7.2. Pharmacological and Medicinal uses: Various activity of *Aegle marmelos* are Antidiabetic Activity, Hepatoprotective, Antimicrobial, Analgesic, Anti inflammatory, Antipyretic, Ant

ifungal, Anticancer, Antispermato-genic, Antiulcer and Anti thyroid. There are various traditional medicinal Uses of Bael tree such as in the treatment of Anaemia, fractures, Swollen Joints, Asthma, Healing of Wounds, in high blood pressure, Jaundice, Diarrhoea. *Aegle marmelos* has been use in Ayurveda, Unani and Siddha systems of medicine in India as a herbal medicine for the management of diabetes mellitus. The unripe dried fruit is use as astringent, stomachic to cure diarrhoea and dysentery. The tree's bark and the roots decoction are used in the treatment of fever. The leaf part of the plants have been used for the treatment in inflammation, hypoglycemia, hepatitis and as analgesic. Ayurveda prescribes the fruits as tonic for heart, stomach and intestinal infections. The unripe fruit is medicinally better than the ripe fruit.

8. *Azadirachta indica* :[8]

Azadirachta indica, Family: Meliaceae, Common Name: Neem. It is grown in tropical and semitropical regions of India, Pakistan, Bangladesh, Nepal, south East Asia, West Africa, and more recently Caribbean, south and Central America. It is a fast-growing tree with 20–23m tall and trunk is straight and has a diameter around 4-5 ft. The leaves contain 5–15 leaflets. On ripening fruits turns to golden yellow colour from green in the months of June to August. It has rough dark brown bark.

8.1. Phytochemical constituents: *Azadirachta indica* contains various constituents like nimbin, nimbidin, nimbolide, and limonoids which in turn help in diseases management. Quercetin and β -sitosterol both are the first polyphenolic flavonoids compounds which purified from fresh leaves. It also contains high quantity of Saponin, Tannins and glycosides. While alkaloids, terpenes, flavonoids, reducing sugars, pentons and whole carbohydrates are found in low quantity.

8.2. Pharmacological and Medicinal uses: Because of their antioxidant activity, the plant products shows an important role in prevention of various diseases and the bacterial growth. *Azadirachta indica* show various activity like Antitumour, Antifertility effect, Antimalarial, Antiulcer, Antihypertensive, Antipyretic, Antihypercholesteremic effect, Anti-HIV/AIDS, Anti-dental caries, in various Skin Disorders, Antibacterial and Larvicidal Activity. The fruits, seeds, oil, leave; roots and bark of neem have been used in the Indian Ayurvedic and Unani medicine, and is now it is used in pharmaceutical and cosmetics industries also. Neem leaves useful for chickenpox, it also helps to increase the immunity of the body, reduce fever caused by malaria, treating various foot fungi. Neem bark and roots control fleas and ticks on pets. It is useful in various skin infections such as acne, psoriasis, scabies, eczema. The hot water extraction of bark has been taken orally by the adult female as a tonic and the flower, leaf is used for anti hysteric remed. Entire plant is used as anthelmintic, insecticide and purgative. The leaf infusion is used as antiseptic. Bathing with Neem leaves is beneficial for itching and other skin diseases. Leaf juice is use as nasal drop for the treatment of worm infestation of nose. Steam inhalation of bark beneficial for the treatment of inflammation of throat.

9. *Citrus limonum* :[9]

Citrus Limonum, Family: Rutaceae, common name: citrus lemon.

The lemon is a small evergreen tree grows in Asia, and cultivated throughout the world. The fruit can be used for culinary and nonculinary purposes. The lemon production is high in various country specially India, Mexico, Brazil,

Spain, Peoples Republic of China, United States, Turkey, Iran and Italy. Fruits are 5m in height with thorns. The fruit is about 6-7cm in diameter and the skin is smooth. It is a tree consisting of long spines on the stem and branches. The round green leaves of this plant are 2.5–3.8 cm in diameter. Unripe fruit of lemon is green in colour, ripe lemon looks yellow in colour.

9.1. Phytochemical constituents: Several phytochemicals contains on the peels of this plant such as limonene, beta caryophyllene, monoterpene hydrocarbon namely α pinene, myrcene, limonene and γ terpinene, C. macroptera such as polyphenols, flavonoids. Citrus lemon also contains alkaloids, saponin, steroids, terpenoids, protein and amino acid, tannins and carbohydrate.

9.2. Pharmacological and Medicinal uses: The reported pharmacological activities of various parts of Citrus are In Vitro Cytotoxicity, Antimicrobial, Hypoglycemic, Antioxidant, Thrombolytic, Cardioprotective and Hepatoprotective. Some of the benefits and medicinal uses of lemon are very useful in constipation, in Scurvy, in Skin Care, eye care, helps in digestion, peptic ulcer, respiratory disorders, gout, weight Loss and various urinary disorders.

10. *Psidium guajava* :[10]

Psidium guajava, family: Myrtaceae, common English name (guava).

P. guajava is a well-known traditional medicinal plant used in various systems of medicine. It is widely grown in India. Its native is Central America, but it is now widely cultivated in Bermuda, Southern Florida, and throughout the West Indies to Brazil. It's an small tree of about 10m height with several branches. Plant grows on all kinds of soils. The bark is light to reddish brown in colour, thin and smooth. The flowers are white in colour. The fruit is small, reddish-yellow in colour when ripped fully, size is about 3 to 6 cm long, pear-shaped. The fruit contains several small seeds. Nutritional value of guavas are abundant, as it contains dietary fiber, vitamins A and C, folic acid and the dietary minerals like potassium, copper and manganese.

10.1. Phytochemical constituents: Guava contains various phytochemicals constituents including proteins, minerals, enzymes. It contains phenols, tannins, flavonoids, terpenoids, and glycosides but in absence of saponins, Guava contain carotenoids and polyphenols, the major classes of antioxidant pigments giving them relatively high potential antioxidant value among plant foods. It also contains vitamins high in lutein, zeaxanthine and lycopene. The guava leaves contain several chemical constituents such as terpenyl acetate, isopropyl alcohol, limonene, menthol, mallic acids, nerolidiol, resin, tannin, eugenol, α -pinene, β -pinene.

10.2. Pharmacological and Medicinal uses: Various activities are Antimutagenic, Antimicrobial, Anti-inflammatory, Antibacterial, Antispasmodic. Various traditional medicinal uses of guava leaf extracts and fruit juice against gastroenteritis diarrhoea and other digestive complaints. Guava leaf also helps to reduce the abdominal pain. Guava leaf extract has also reported to have tranquilizing effect on intestinal smooth muscle.

11. *Hibiscus rosa sinensis* :[11]

Hibiscus rosa sinensis, Family: Malvaceae, Common name: Assamese Jiwa, Joba, Hindi: Jasum. The red flowered variety of *Hibiscus* plants have different medicinal properties. The red flower is very large and can up to 15cm long have 5 petals. Leaves are bright green in colour. Flowers have many colours. The tree grows up to 4.7 meter tall distributed

throughout tropical and subtropical regions. *Hibiscus* is commonly cultivated in garden. Its native is china and also grown in India and Philippines. This is a national flower of Malaysia. The plant with deep-red flowers is believed to have an Asian origin, hence the name *rosa-sinensis* meaning 'rose of China.

11.1. Phytochemical constituents: It contains Tannins, Flavonoids, Steroids, Alkaloids, Saponins, total phenols, total flavonoids and proanthocyanidin. The other compounds are also present like cyclopeptide alkaloid, cyaniding chloride, quercetin, hentriacontane and vitamins: riboflavin, ascorbic acid and thiamine. The leaves and stems contains β -sitosterol, stigmasterol. The roots of *H. sinensis* contains tannins, sterols, carbohydrates and glycosides, flavonoid, triterpenoids and saponins.

11.2. Pharmacological and Medicinal uses: Hibiscus leaves are used as antidiarrheal. In Iran *H. sinensis* tea used for the treatment of hypertension. It has several activity like Anticancer, Antioxidant, Antibacterial, Antimicrobial, Hypolipidemic, Antidiabetic, Antiulcer, Cardioprotective, Anti depressant, Analgesic, Antiinflammatory. So the traditional use of flowers and leaves are antifertility activity, as menorrhagia, contraceptive, diuretic, bronchitis, demulcent cough. *Hibiscus* has been used to treat constipation. The leaves are also used as emollients in skin disease. The plant used for the treatment of nerve diseases, heart.

12. *Catharanthus roseus* :[12]

Catharanthus roseus, Family: Apocynaceae,
Common name: English: cayenne jasmine, Hindi: sada bahar,

Assamese: Noyontara. *Catharanthus roseus* is an evergreen subherb plant growing height upto 1 meter tall. The leaves are oval, 2.5- 9.0 cm. long. The flowers are available in different colour white, dark pink with a dark red in colour in center, five petals like lobes. It's native to the Indian. It is now commonly grown in many tropical and subtropical regions worldwide, including the Southern United states.

12.1. Phytochemical constituents: It contains saponin, tannin, steroids, flavonoids, alkaloids, glycosides, and carbohydrate. The alkaloids Vinblastine, Vincristine are also present in it.

12.2. Pharmacological and Medicinal uses: It has various medicinal uses as Anti-diabetic, Anti-cancer, Anti-microbial, Anti-oxidant, Anti-diarrheal, wound healing property, Antihelminthic, Anti-ulcer, hypotensive, hypolipidemic effect and memory enhancement activity. Some of the folk medicinal use of *Catharanthus roseus* In India the juice of leaves is used as application to bee sting, in indigestion and dyspepsia. Decoction of leaves is used in diabetes and decoction of young leaves is used in stomach cramps. The extracts of leaf and root use for the treatment of cancer. The plant is also used in the treatment for the insomnia. Gargling the hot decoction is used to ease soar throats and helpful in laryngitis.

13. *Trichosanthes dioica* :[13]

Trichosanthes dioica, Family: Cucurbitaceae). It is commonly known as pointed gourd in English, Patol in Assamese and Bengali, Padwal in Hindi. Fruits are used traditionally as food vegetable in India. It is a climber herb grown wild throughout the areas of North and North-East India from Punjab to Assam and Tripura states of India. It is an annual or perennial herb grown, commercially cultivated in Bangladesh, Pakistan and Sri Lanka, Australia for its fruits. Seeds are not use for plantation as it has poor germination. The plant grows as a vine. Vines are dark green

in colour pencil shaped thick in size. Flowers are white in colour.

13.1. Phytochemical constituents: It contains alkaloids, glycosides, flavonoids, steroids carbohydrates, and tannins. These are responsible for the many pharmacological actions.

13.2. Pharmacological and Medicinal uses: It has various medicinal properties like Cholesterol lowering activity, Antidiabetic, Antipyretic, Anthelmintic, Antihyperglycemic, as Antioxidant, helps in burn wound healing have good glycaemic property, hepatoprotective. Besides fruits, the other parts of the plant leaves and tender shoots, have also been used in traditional treatment from ancient times. Pointed gourd has been used for constipation, fever, skin infection, also improves appetite and helps in digestion.

14. *Cynodon dactylon* :[14]

Cynodon dactylon, Belongs to the family: Poaceae, Common names: Bermuda grass, doob etc.

Cynodon dactylon is a warm-seasonal herbs, prostrate. The perennial grass that grown in almost any soil types. Leaves are gray-green in colour and 1.5-5.9 in. (4-15 cm) long. Flowers appear in late summer, flowers size is about 1-3 in. (3-7 cm). *Cynodon dactylon* native is eastern Africa and it prefers moist and warm climatic zone to grow need high light. At temperature 38° C maximum growth rates shown for this herbs. Bermuda grass unaffected in flood also. A rapidly growing herbs which can grow over 2 m tall, Nitrogen fertilizers decreasing the amount of sucrose and fructosan in stolons, rhizomes, stems and roots by increasing the glucose content of leaves.

14.1. Phytochemical constituents: It contains Alkaloids, carbohydrates, proteins, flavanoids, tannins, saponins. It also contains some other constituents they are alkaloids ergonovine and ergonovinine, ferulic β sitosterol, vitamin C, palmitic acid, triterpenoids, selenium.

14.2. Pharmacological and Medicinal uses: Different activity like CNS activity, Antidiabetic, Antiulcer, Antiarrhythmic, Analgesic, Antipyretic, diuretic and Antimicrobial, Hepatoprotective effect, diuretic, Anticonvulsive property, Anti-inflammatory, Antioxidant. In traditional medicine it is used for indigestion and the treatment of wounds. According to an old Venda tradition, it is used in the fermentation process to make beer sour. It is reported to be use as aperients, astringent, cyanogenetic, demulcent, depurative, diuretic antiseptic and emollient. It is a folk remedy for cancer, carbuncles, convulsions, cough, cramps, cystitis, anasarca, calculus, diarrhoea, dropsy, dysentery, epilepsy, headache, hemorrhage, hypertension, laxative and snakebite.

15. *Brassica rapa* :[15]

Brassica is a plant commonly known as the mustard belongs the family Brassicaceae. Plant grown up to 160 cm tall with flower. Brown mustard is widely cultivated for its seed which is a source of oil. In India, mustard seed are being grown largely in states like Assam, west Bengal, Gujarat, Punjab, Uttar Pradesh, Rajasthan, Haryana, and Madhya Pradesh. *Brassica juncea* is erecting much branched 3' to 6' annual plant, slender and tapering root. The members of *Brassica* known as mustard plant vegetables, cabbages. The genus *Brassica* is known for its important agricultural and horticultural crops. *Brassica* species and varieties commonly used for food include cabbage, choy sum, rutabaga, turnip, broccoli, cauliflower. Some seeds used in the production of canola oil. Most are seasonal plant. *Brassica* plants have scientific interest for their agricultural importance. Six particular species found they are *B. carinata*,

B. juncea, *B. oleracea*, *B. napus*, *B. nigra*, and *B. rapa*. Its native is Western Europe, regions of Asia, the mediterranean. Almost all parts have been developed for food, including the leaves (cabbage, collard greens, kale), flowers (cauliflower, broccoli), buds (Brussels sprouts, cabbage), root (turnip), stems (kohlrabi), and seeds (including mustard seed, and oil-producing rapeseed).

15.1. Phytochemical constituents: It contains tannins, alkaloids, carbohydrates, saponins, proteins, flavanoids, and anthocyanins, phytosterols, chlorophyll, glucosinolates, phytosteroids, terpenoids. Due to the presence of these many constituents *Brassica* plants use medically against various diseases in human. Canola oil is made from selective bred plants that contain less than 2% erucic acid.

15.2. Pharmacological and Medicinal uses: It has Antidiabetic effect, Antimicrobial activity, Antioxidant effect, Anti-inflammatory effect, Antiepileptic. The seed is a warming stimulant herb shows antibiotic effects. It is used as diuretic, emetic, rubefacient and stimulant. Brown mustard is a folk remedy for arthritis, foot ache, rheumatism. The seed is used in the tumour treatment in China and Korea. Mustard oil very much useful in the treatment of skin eruptions and ulcers. Leaves applied to the forehead to relieve headache. Various therapeutic uses are Anti-scurvy, Anti-inflammatory of bladder. Seeds were documented to use for the treatment of hepatic and kidney colic disease. Rapeseed oil decrease cholesterol by 7%. The edible rapeseed oil was prepared from plant's hybrid which contained little or no erucic acid and used as cooking oil throughout the world.

Conclusion:

The extensive use of Synthetic drugs in the treatment and prevention of diseases has led to the rapid development of drug resistance. Drug resistance is one of the leading causes of failure in drug therapy. During Antimicrobial therapy drug resistance is frequently encountered. The use of natural therapy in the treatment and prevention of disease is not only safe, it is easily available but is economically affordable as well. Presently, various physicians or practitioner are looking for alternative treatment of medicine for curing various diseases, so importance has been given in the development of traditional herbal medicine from natural resources. This review has presented a comprehensive summary and discussion on the Systematic overview of 15 traditionally used plants of Assam. In this study the various aspects like the plants taxonomical characters, geographical habitat, Cultivation along with its physicochemical constituents, pharmacological and medicinal uses were extensively reviewed. By this it can be concluded that the extensive review on the 15 medicinally used plant of Assam will definitely useful for the scientific community and physicians or practitioner for the treatment of various disease.

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1. *Carica papaya*



2. *Cocos nucifera*



3. *Murraya koenigii*



4. *Ocimum sanctum*



7. *Aegle marmelos*



5. *Musa paradisiaca*



8. *Azadirachta indica*



6. *Averrhoa carambola*



9. *Citrus limonum*



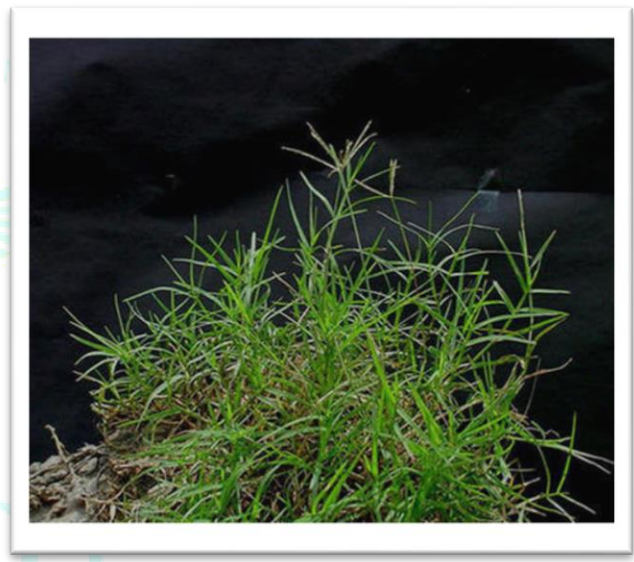
10. *Psidium guajava*



13. *Trichosanthes dioica*



11. *Hibiscus rosa sinensis*



14. *Cynodon dactylon*



12. *Catharanthus roseus*



15. *Brassica rapa*

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