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Biodiversity and Conservation of Some Medicinal Plants of Allahabad District.

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Abstract

The paper describes biodiversity and conservation of some medicinal plants of Allahabad district. The Plants have been collected extensively from different parts of Allahabad district growing in diverse ecological conditions. The taxonomy, ecology and conservation strategies of medicinal plants have been discussed in detail for the first time.

Keywords: Biodiversity, Pharmacological and Conservation.

Introduction

India is well known to show the rich heritage of its biodiversity of both plants and animals. It represents as one of the 12 mega biodiversity centers in the world. Presently, India is represented by four hot spots e.g. Western ghats, Eastern Himalayas, North-East and Islands of Andaman and Nicobar. It occupies nearly 329 million hectare area, In addition with a coastal line of about 7500 kms. Peeping into the scale of human evolution, the man came into existence roughly 4.5 million years back and the modern man (*Homo sapiens*) came roughly 40,000 years ago on the landscape. Since beginning the man appears to be nomadic and innovative in nature. Nearly 12,000 years back he domesticated animals and cultivated plants. The three essential prerequisites of the human beings are food, shelter and protection. He became more dependent on plants and animals for his survival and sustenance. Out of total 17000 to18000 species of flowering plants known form India only 6000 to 7000 plants are known for their medicinal value (NMPB,2016).Since ancient time, India has developed a number of medicinal systems like Ayurveda, Siddha and Unani. *Rigveda* records about 67 medicinal plants, *Yajurveda* reports about 81 plants and *Atharveda* enumerates the list of about 290 medicinal plants (Nabachandra & Manjula,1992). Jeevak was the first court physician of king Bimbsar (5th cen. BC).Who also used to cure Tathagata Lord Buddha during his illness (Mehta, 1993). Jeevak was the brilliant student of Mahrshi Athreya,who said to his teacher "I could find nothing in nature without medicinal power." In vedic times, Jeevak was followed by another well known physician and surgeon Sushruta (6th Cen BC).In his famous 'Sushruta *Samhita'* he mentioned about 700 medicinal plants. As well as many tools used in the surgery. Subsequently,he was followed by Acharya Charak in (1Cen AD).Charak is known as the 'Father of Indian Medicine'. He mentioned in his '*Charak Samhita'* the list of about 341 medicinal plants, 177 animals and 64 mineral substances. Bhav Mishra (16th Cent.AD) and Nadkarni (1908) published *Bhav Prakash* and *Indian Materia Medica* respectively. In recent years, others who contributed to the study of Indian medicinal plants are Kirtikar & Basu (1918), Chopra & Nayer (1956), Maheshwari (2000), Kaushik & Dhiman (2000), Misra & Tiwari (2014) and Mishra *et al*.(2016).

Topography, Collection and Methodology

Topographically, the district of Allahabad is centrally situated in the state of Uttar Pradesh and it lies between $24^0 47'$ and $25^0 47'$ N latitude and $81^0 9'$ and $82^0 21'$ E longitude. The maximum length from east to west is 117 km and breadth from north to south is about 101 km. The entire district is spread over an area of 7254 Sq. km. The district of Allahabad lies 95 m. above from sea level. The boundary of the district is surrounded by districts of Pratapgarh and Jaunpur in the north;Varanasi on the east ;Mirzapur in the south east; Rewa (M.P) in the south; Banda on the south west and newly formed district of Kaushambi in the west.The district is divided into 3 physical parts (1) Trans-Ganga (Gangapar) (II)Trans-Yamuna (Yamunapar) and (III) the Doab. The Ganga

and Jamuna unite at Allahabad and the confluence is known as 'Sangam.' (1)The Trans-Ganga (or Gangapar) tract comprises 3 tehsils Soraon, Phulpur and Handia. (2) Trans-Yamuna (Yamunapar) tract includes Meja, Karchchna and Bara tahsils. (III) the Doab tract comprises tahsils Chail, Sirathu and Manjhanpur and most of these parts have been included into newly formed district Kaushambi. The main rivers of the district are Ganga,Yamuna, and Tons; and other minor rivers like Varuna, Sai, Sasur khaderi and Belan. Allahabad enjoys a delightful cool and dry winter,a long hot summer and a short rainy season. Winter season starts four months from mid November upto February. December and January are considered to be the coldest months respectively of the season. March follows the transitional climate. The summer begins from month of April upto June. May and June become the hottest station in the northern India and temperature often shoots upto the more than 40^{0}C (Sharma Allahabad,1959).

In the present study, nearly twenty species of angiosprmic medicinal plants have been collected(see table 1& Plate 1 figs. 1-9) from various localities of Allahabad district e.g. Sahson,Phoolpur,Barui,Garapur, Saraichandi,Tharwai,Phaphamu,Jhunsi,Allahabad city, Roxbergh Botanical garden, A.U, campus ECC and BSI. Voucher specimens of above mentioned plants have been deposited in Duthie Herbarium, Botany Department, University of Allahabad, Allahabad.

Table. 1. Showing the list of some medicinal plants

S.N.	Botanical Name	Local Name	Habit	Part used	Chemical Constituents	Pharmacological uses
1-	*Abelmoschus moschatus Medik. (Malvaceae)*	Muskdana (H)	Under shrub	Seeds	B-sitosterol, glucosides, beta-D-glucoside, myricetin and glucosides.	Seeds are used as a tonic, aphrodisiac, ophthalmic, digestive, carminative, diuretic, stimulant and heart troubles. It is used in treatments of leucoderma, gonorrhea and urinary disorders.
2-	*Acalypha Indica L. (Euphorbiaceae)*	Kuppi (H)	Herb	Leaves	Stigmasterol,B-sitosterol,clitonin,acalyphin,clitonin,hesperitin,saponin and kaempferol.	The juice extracted from the leaves, mixed with lime and applied on skin to cure diseases caused by Ringworm. Fresh juice of leaves mixed with oil and salt is used for Rheumatoid arthritis and to cure Scabies.
3-	*Achyranthus aspera L. (Amaranthceae)*	*Latjeera (H)*	Herb	Roots and seeds	22-dien-3-b-ol,triacontanol, exatriacontane,triacontane,10-tricosanone and b-sitosterol.	Seeds in Hydrophobia, Cough, Cold, Abdominal colic, Toothach,Scabies,Rheumatism,Piles,Dysentry,Snakebite, Hypotensive& Spasmogenic, Skin disease(Leprosy). Plant is used in asthma and cough.
4-	*Allium ceppaL.var. cepa. (Liliaceae)*	*Onion (H)*	Herb	Bulb	Allicin, alliin, alliofuroside-A,alliospiroside-A,alpha-myrin,alphatocopherol,b-sitosterolbenzyl-iso-thiocynate and cycloalliin.	Plant is antimicrobial, hypoglycaemic, anti-platelet aggregation, anti-asthmatic, antiallergic, lipid –and blood pressure-lowering effects.
5-	*Allium sativum L .(Liliaceae)*	*Lehsun (H)*	Herb	Bulb and oil	S-allyl cysteine, S-allyl mercaptocysteine and diallyl, dimethyl mono.	Used in anthelmintic activity, analgesic activity, antiamoetic activity, antibacterial activity, anticarcinogenic effect, antifilarial activity, antioxident activity, antitumor & cardiotonic activity.
6-	*Aloe vera (L.) Webb.&Berth. (Liliaceae)*	*Gheekaur/ Gwar patha* (H)	Herb	Leaves	Saponins, salicylic acid, lignin,bcarotine,choline,monosaccharide,threonine,aspartic acid and glutamic acid.	Constipation ,fever, colic, and menstrual disorder.
7-	*Anagallis arvensis L. (Primulaceae)*	Krishna neel(H)	Herb	Whole plant	Sterol,b-sitosterol,b-amyrin, cucurbitacin, arvenin, glucosides & n-hexacosane.	Fresh fruits are appetizer, hair tonic, antifatigue, gum, kapha-Pittakark, anthelmintic & laxative.

8-	*Andrographis Paniculata(Burm.f.) Wall.ex Nees (Acanthaceae)*	*Kaal-megh (H)*	Herb	All parts	Andrographidine,neoandrographolide,andrographolide,b-ducosterol andoleanolic acid.	Plant extract is known to possess a variety of pharmacological activities. Plant have anthelmintic, antifungal , antibiotic, antimicrobial activities.
9-	*Argemon Mexicana L. (Papaveraceae)*	*Satya-nashi* (H)	Herb	Root ,Seed and Latex	Berberine,protopine,muramine,coptisine,allocryptopine,argemexicaine,panocorine and angoline.	The herb is rich source of vitamin-C and has anti-typhoid and anti-tuberculer properties.It is bitter, acrid, appetizer, diuretic,aphrodisiac and lithontriptic.
10-	*Basella alba L.* *(Basellaceae)*	Mala-bar spinach (H)	Climber	All parts	10-undecen-1-ol,heptanoic acid-2-ethyl,phytol,squalene,1,4-cyclohexane di methanol, saponins and coumarin.	Alliviate kapha, Carminative increases,apitizer,Scorbutic,Sperma torrheal used in Puritic, Worms infestation Leucoderma,Leprosy,Epilepsy,Insomnia,Dental disorder.
11-	*Boerhhavia diffusa L. (Nyctaginaceae)*	Punarnava (H)	Herb	Whole plant	Punarnavine-1 & 2,b-sitosterol,b-sitosterol-D-glucoside,sitosterol oleate, sitosteryl palmitate, kaempferol, quercetin, boerhaavinone A&B.	Plant is believed to improve and protect eyesight. *B. diffusa* has diuretic properties and is used by diabetics to lower blood sugar. *Boerhavia diffusa* has shown antibacterial activity, mainly against Gram-negative bacteria.
12-	*Cannabis sativa L. (Cannabinaceae)*	Indian Hemp (H)	Herb	Leaves, seed and oil.	Cannabinol, cannabidiol, cannabigerol, cannabivarin & cannabichromene.	Bigger leaves are used as Bhang and smaller leaves as Ganja; Leaves are used in ear trouble and anthelmintic.
13-	*Cassia fistula L.* (Caesalpiniaceae)	Amaltaas (H)	Tree	Fruit pulp, roots, bark, leaves and pods.	Fustucacidin, fistulin, kaempferol, rhein, volatile oil,chrysophanol and sennoside A.	The root is considered a purgative and self-medication or any use without medical supervision is strongly advised against in Ayurvedic texts.
14-	*Cleome viscosa L.* (Capparaceae)	Hur-hur (H)	Herb	Leaves, seeds and root.	Steroids, terpenoids, quercetin, kaempferol, coumarino-lignans.	Plant have wound healing , analgesic, anthelmintic, anticonvulcent and anti-inflammatory activity.
15-	*Convolvulus arvensis L.* (Convolvulaceae)	Hiranpug(H)	Herb	Whole plant	Coumarin, geraniol, undecane, limonene, myrcene, a-terpineol,p-cymene and r-terpenene.	*C.arvensis* is used in wound healing, skin infections, reducing inflammations antispasmodic, laxative activity.
16-	*Mansoa aliacea* (Lamk.) A.H.Gentry. (Bignoniaceae)	Lahsun-Lata (H)	Climber	All parts	Luteolin, B-sitosterol, ursolic acid, apigenin,scuteellarein-7-glucuronide,hex-1-in-3-ol and diallyl trisulfide.	Traditionally, plant is used in treatment of pain and inflammation of arthritis and rheumatism.
17-	*Moringa oleifera* Lamk. (Moringaceae)	Sahjan (H)	Small Tree	Leaves, root, Fruit, bark and seed	Linalool, a-terpineol,p-vinyl guaiacol,eudes-11-en-4-a-6a-diol,1 octdecane, octdecane, and triacontane.	Plant have been used in cure of cardiovascular, gastrointestinal, haematological, kidney and antidiuretic properties.
18-	*Ruellia tuberosa L.* (Acanthaceae)	Fever-root(H)	Herb	Root	B-sitosterol, syringing, roseoside, cistanoside F & E,isoacteoside, acetoside and vanilloside.	Plant have antioxidant, antiprotozoan,antidiarrheaic, anti bacterial and antihaemorrhagic acivities.
19-	*Urena lobata L.* (Malvaceae)	Vilayati san (H)	Under shrub	Root and Leaves	Steroids, terpenoids, Riboflavin, Niacin, iridoids, coumarins, tannin & glycosides.	Juice of leaves and roots is used in cure of stomach-ache, diarrhea, dysentery and gonorrhea. Leaves are used as diuretic, emollient, refrigerant, styptic and vulnerary.
20-	*Withania somnifera (L.)Dunal. (Solanaceae)*	Ashwagandha (H)	Under shrub	Root, leaves and fruit	Withaferin A, withanolides, lanosterol, squalene, tropine, somniferine and lanosterol.	*Withania* is an aphrodisiac, sedative, rejuvenative and antiaging plant. It is used for promoting youthness, endurance and strength.

Observation, Discussion and Conservation

1-*Abelmoschus moschatus* (L.)Medik.,Muskdana (Hindi).

Erect hispid, undershrub, 0.6-2.5m in height, leaves long petioled, ovate, sub orbicular, palmately 3-7 lobed, cordate at base, stipule lanceolate, upto 2cm long. Flower large, solitary involucral bracts 8-12 hairy, yellow with purple center, fruit capsule fulvous hairy, oblong, lanceolate, seed subreniform and blackish.

Soil-profile:plants growing in grassy plains, Soil clayish, pH 8.0,Electrical conductivity 0.41mmho/ sec, organic carbon 0.15%,available Phosphorus14kg/ ha, Potash 16kg/ha, Copper 2.55PPM,Iron 5.60 PPM, Mangnese 1.97 PPM and Zinc 2.52 PPM.

Medicinal uses: Seeds, roots and leaves are used to cure Dyspepsia, urinary discharge, gonorrhea and Leucoderma respectively.

2-*Acalypha indica L*., Kuppi (H).

Erect, annual herb, 30-70cm height, with many spreading or ascending branches, leaves membranous, 5x4 cm, ovate or rhomboid ovate, serrate, cuneate at base, arranged in a mosaic; flowers small ,greenish, in lax erect, axillary, spikes; male clustered towards the top; females solitary or paired, each enclosed by a foliar,6x6 mm bract, capsuler concealed by persistant bracts ,seeds ovoid, pale brown, shining.

Soil profile: plants growing in wastelands, Soil alluvial, pH 7.80,Electrical conductivity 0.37mmho/ sec, organic carbon 0.62%,available Phosphorus 16kg/ ha, Potash 246 kg/ha, Copper 2.67PPM,Iron 5.65 PPM, Manganese 7.40 PPM and Zinc 1.60 PPM.

Medicinal uses: The entire plants including leaves of the plant are used to cure treat bed sores, wounds,skin disorders,eye , ear diseases, leprosy, Jaundice and heart disease.

3-*Achyranthes aspera L.*,Chirchira (H) & Apamarg (S).

Erect annual herb, leaves large, ovate, acute or acuminate, glabrous. Flowers greenish white, deflexed, in terminal spikes elongating in fruits, bracts and bracteoles persistent, ending in a spine, utricle oblong, seeds sub cylindrical, brown.

Soil Profile: growing near railway tracks and waste places. Soil sandy loam, pH 7.90, Electrical conductivity 0.48mmho/sec, organic carbon 0.41%,available Phasphorus15kg/ha., Potash 187kg/ha, Copper 2.55PPM,Iron 7.15 PPM, Manganese 1.97 PPM and Zinc 1.64 PPM.

Medicinal uses: whole plant is used in snake bite and cure from poisonous insects. The powder from the root is used in wounds, ulcer and stomach pain.

4-*Allium cepa* L., Pyaaz(H) .

Erect annual herb, bulbs large, leaves radical, hollw, bifarious, flowers many, white in colour in dense umbels with both flowers and bulbils, substended by 2 or 3 reflexed bracts, stamen excerted.

Soil Profile: commonly cultivated as crop, Soil clayish and loam, pH 8.90,Electrical conductivity 0.26 mmho/sec, organic carbon 0.63%, available Phosphorus 16kg/ha, Potash 1105kg/ha, Copper 1.4 PPM, Iron 8.32 PPM, Manganese 5.04 PPM and Zinc 1.24 PPM.

Medicinal uses: Bulbs are used as stimulant, diuretic, expectorant, aphrodisiac, emmenagogue, dysentery, pneumonia ,jaundice and in bone fractures.

5-*Allium sativum* L., Lahsun (H)

Annual herb, bulb short, with bulblets enclosed in a white or ,pink envelope, leaves flat ,flowers often displaced by bubils, pinkish in a lax umbeds on a long, terete scape exceeding the leaves ,anthers and style exserted.

Soil Profile: cultivated as crops plant, Soil clayish pH 7.90,Electrical conductivity 0.16mmho/sec, organic carbon 0.60%, available Phosphorus12kg/ha, Potash 260 kg/ha, Copper 1.52PPM,Iron 11.96 PPM, Manganese 6.54 PPM and Zinc 1.32 PPM.

Medicinal uses: It is used as stimulant, diaphoretic, expectorant, diuretic, tonic, carminative ,aphrodisiac, expectorant and stimulant used in fever, coughs in intermittent fever. Fresh garlic inhibited mammary tumor in females.

6- *Aloe vera (L.)* Webb.&Berth.(non Mill.)., Gheekumari (H).

Perennial herb, stoloniferous plant ,leaf rosettes arising from ground, 60-80cm height, leaves erect, thick, numerous gloucous-green lanceolate, long-acuminate, thorn-edged, flowers vermilion coloured, in simple, racemes, the lower flowers falling off as the racemes elongates. Stamens equaling the perianth.

Soil Profile: commonly cultivated in gardens, Soil sandy light brown, pH 8.0,Electrical conductivity 0.77mmho/sec, organic carbon 0.62%, available Phosphorus 12kg/ha, Potash 213kg/ha, Copper 2.99 PPM, Iron 1.60 PPM, Manganese 7.15 PPM and Zinc 2.0 PPM.

Medicinal uses: Pulp of the leaves is used externally to treat cuts, burns, ulcers, eczema, wounds, gastritis, diabetes, cancer and arthritis.

7-*Argemone mexicana* L., Satyanashi (H).

Undershrub, stems, woody, herbaceous, leaves glaucous, prickly, sinuate-pinnatified, flowers yellow, stigmas red, capsules erect prickly ,dehiscing by valves, seeds black .

Soil Profile: commonlly growing near waste lands, grasslands, Soil alluvial, light yellowish , pH 7.90,Electrical conductivity 0.77mmho/sec, organic carbon 0.62%, Available Phosphorus12 kg/ha, Potash 213 kg/ha, Copper 2.09PPM, Iron 2.0 PPM, Manganese 7.14 PPM and Zinc 2.0 PPM.

Medicinal uses: Latex of the plant is applied externally to treat various skin disorders particularly ring worm. Roots and seeds are mixed with mustard oil to treat pyorrhea and mouth ulcers.

8-*Anagallis arvensis* L., Dharti- dhak (H).

An erect annual herb, branches quadrangular, flattish or winged, leaves up to 3-1.5 cm, cordate, entire, flowers bright blue, solitary; pedicels decurved in fruits, stamens 5,capsules many seeded, about 5x5 mm.

Soil profile: plant grows near grasslands, Soil alluvial ,dark blackish, pH 8.20,Electrical conductivity 0.41mm ho/sec, organic carbon 0.25%, Available Phosphorus10kg/ha, Potash 12kg/ha, Copper 1.55PPM,Iron 5.60 PPM, Manganese 1.56 PPM and Zinc 3.52 PPM.

Medicinal uses: Plant is used in mania, epileptic attacks, CNS disorders, cuts, ulcers and infected pimples.

9- *Andrographis paniculata (Burm*.F)Wall.ex.Nees. ,Kalmegh (H).

An erect annual herb,40-100cm in height, branches herbaceous, greenish, sharply 4-angled or winged. Leaves 5-10 x 2.0-2.5 cm ,ovate, lanceolate, inflorescence a lax, axillary and terminal, unilateral raceme, forming a panicle, flowers whitish, spotted with rose –purple, bracts opposite, paired, capsules tapering at ends.

Soil Profile: plants growing in gardens, Soil sandy light brown, pH 8.0 average, Electrical conductivity 0.77mm ho/sec, organic carbon 0.62%, Available Phosphorus12 kg/ha, Potash 213 kg/ha, Copper 2.09PPM, Iron 2.0 PPM, Manganese 7.14 PPM and Zinc 2.0 PPM.

Medicinal uses: Plant is used in cure of fever (all types) especially intermittent fever, dysentery, dysentery, dyspepsia and spleen complaints used as curative or preventive in snake poisoning.

10- *Basella alba L*., Lalbachlu (H).

A glabrous twining shrub, leaves broad ovate, cordate, subsucculent, entire, glossy, flower light reddish or pale purple, in lax, axillary, peduncled spikes, perianth fleshy, utricle black ,ovoid .

Soil Profile: Growing near moist places and water logged areas, Soil sandy light brown, pH 8.0 average, Electrical conductivity 0.44mmho/sec, organic carbon 0.41%,Available Phosphorus 29 kg/ha, Potash 184 kg/ha, Copper 3.0PPM, Iron 1.50 PPM, Manganese 1.14 PPM and Zinc 1.05 PPM.

Medicinal uses: Leaves are used in digestive disorders, skin diseases, bleeding piles, leprosy, gonorrhea and sexual asthenia.

11-*Boerhavia diffusa L.*,Punarnava (H).

A spreading much branched perennial herb, prostrate growing, root tap stout ,leaves in unequal broad ovate or suborbiculer, cordate, flowers pink or whitish minute, in small, bracteates umbels of 6-10,arranged in long stalked, axillary and terminal panicles,first,clavate, 5-ribbed, viscidly glanduler on the ribs.

Soil Profile:plant growing in gardens ,grasslands and near railway tracks, Soil alluvial light brown, pH 8.0 average, Electrical conductivity 0.4mmho/sec, organic carbon 0.34%,Available Phosphorus19 kg/ha, Potash 246 kg/ha, Copper 1.09PPM, Iron 3.06 PPM, Manganese 5.24 PPM and Zinc 3.04 PPM.

Medicinal uses: Plant is used in cure of dyspepsia, tumours, anaemia, heart disease, jaundice, asthma and urinary disorders.

12-*Cannabis sativa L.*,Bhang (H).

A robust annual herb, leaves 3-8 foliate, long petioled; lobes lanceolate, flowers dioceous, male plants flowers in axillary, short panicled cymes, female plants, flower s crowded with leafy bracts, style arms 2,filiform,Nuts crustaceous.

Soil Profile: occurs near, wastelands, roadsides and railway tracks, clayish and loam, pH 7.90 ,Electrical conductivity 0.48 mm ho/sec, organic carbon 0.41%, Available Phosphorus16kg/ha, Potash 186kg/ha, Copper 0.20 PPM, Iron 7.15 PPM, Manganese 1.97 PPM and Zinc 1.64 PPM.

Medicinal uses: Plants have antidiuretic, antiemetic, antiepileptic, anti-inflammatory activity. tribal people used its leaves for smoking.

13- *Cassia fistula* L.,Amaltas (H).

Trees deciduous with thickness, yellowish or greenish-grey bark, leaflets 4-8 pairs, 10-16x5cm, flowers bright yellow, in long, drooping, racemes. Pods 40-60 x 2.0-2.6cm, cylindrical, pendulous among leafless branches, seeds flat , embedded in sweetish pulp.

Soil profile: occurs in cultivated gardens and lawns. Soil silty loam brown in colour pH 7.09, Electrical conductivity 0.14mmho/sec, organic carbon 0.78%, Available Phosphorus14kg/ha, Potash 260kg/ha, Copper 1.75PPM,Iron 9.76 PPM, Manganese 5.72 PPM and Zinc 1.26 PPM.

Medicinal uses: Root is astringent, tonic, febrifuge, and purgative. Root, bark, seeds and leaves are laxative. Fruit cures leprosy, heart diseases and in snake bites.

14-*Cleome viscosa* L.,Hurhur(H).

Pubescent herb,very variable in size, flowers whitish-yellow, solitary, viscid pubescent, stamens 12 or more. fruit 1.5-7.5cm reniform.

Soil profile: common weed in fields of waste lands, Soil dark brown clayish, pH 8.30,Electrical conductivity 0.27mmho/sec, organic carbon 0.12%,Available Phosphorus 18kg/ha, Potash 11kg/ha, Copper 0.21PPM,Iron 6.67 PPM, Manganese 1.02 PPM and Zinc 1.0 PPM.

Medicinal uses: Plant are rubifacient, vesicant, subodorific and are used for external application on wounds, ulcers, chronic painful joints and earche.

15- *Convolvulus arvensis L.*, Hiranpadi (H).

Prostrate, annual herb, stem long ,slender, leaves ovate to oblong, mucronate, base auriculate to hastate, flowers solitary or rarely paired, pink or white in colour, bracteoles linear, corolla campanulate, up to 22mm long ,stamens attached near the base of corolla, overy, glaberous, capsule globose ,5mm across, seed 4 dark brown to black.

Soil Profile: growing near open fields and grasslands, Soil yellowish brown, clayish, pH 8.20,Electrical conductivity 0.18mmho/sec, organic carbon 0.17%, Available Phosphorus11kg/ha, Potash 14kg/ha, Copper 2.55PPM,Iron 5.60 PPM, Manganese 4.46 PPM and Zinc 1.64 PPM.

Medicinal uses: Plant is used in cure of skin ulcers, reducing wounds, rheumatic pain and inflammations.

16-*Mansoa alliacea* (Lam.) A.H.Gentry., Lahsun Lata (H).

Perennial climber, stem solid ,branched, herbaceous, leaflets bases rounded or broadly cuneate, psuedostipules, in conspicuous, inflorescences racemose on small lateral branchlets ,flower purple with white throat, fruit valves, costate, acuminate.

Soil Profile: growing in cultivated garden, Soil sandy loam, dark brown,pH 7.7, Electrical conductivity 0.67mm ho/sec, organic carbon 0.97%,Available Phosphorus 20kg/ha, Potash 16kg/ha, Copper 0.54PPM,Iron 8.05 PPM, Manganese 1.10 PPM and Zinc 3.52 PPM.

Medicinal uses: Plant is used to cure to relieve pain, reduces inflammations and fevers, cold, flu and control cholesterol level.

17-*Moringa oleifera* Lamk. , Sahajan (H)

A small or large tree, trunk grey white with longitudinal wrinkles. Leaves small, multipinnate, leaflets obovate or elliptic, flowers pale whitish, fragrant, pods long greenish pendulous.

Soil Profile: commonly cultivated growing near railways tracks and wastelands, soil clayish loam, pH 7.70,pH 8.0,Electrical conductivity 0.16 mm ho/sec, organic carbon 0.60%,Available Phosphorus12kg/ha, Potash 260kg/ha, Copper 1.52 PPM, Iron 11.16 PPM, Manganese 3.53 PPM and Zinc 1.22 PPM.

Medicinal uses: Roots are bitter used as expectorant, emmenagogue and diuretic, epilepsy and hysteria, sores and wounds.

18-*Ruellia tuberosa* L. Fever root (H).

Erect, annual herb,60-70 cm in height ,leaves up to 12cm long, oblong, shining, narrowed at the base, entire to sub undulate, flowers blue violet, paired in axils of leaves, ephemeral, corolla tube abruptly narrowed below, capsule oblong-mucronate, flattened, black, seeds sub orbicular compressed black brown.

Soil Profile: commonly growing near wastelands, soil clayish and loam, pH 6.90,Electrical conductivity 0.12 mm ho/sec, organic carbon 0.69%, Available Phosphorus18kg/ha, Potash 260kg/ha, Copper 1.89 PPM, Iron 10.28 PPM, Manganese 4.96 PPM and Zinc 1.32 PPM.

Medicinal uses: Plant is traditionally used as diuretic, antipyretic, anthelmintic, emetic, kidney disorders and gonorrhea.

19- *Urena lobata* L.,Vilayati San (H).

An erect shrubby annual herb, upto 80-1.2m in height, stem and branches densely wooly, leaves variable, stipulate, epicalyx 2-embaracing the calyx,3 glands present at the base of lamina, flowers bright pink with a darker center, carpels armed with hooked bristles.

Soil Profile: occurs near railways tracks, wastelands, soil clayish loam, pH 7.90,Electrical conductivity 0.26 mm ho/sec, organic carbon 0.634%,Available Phosphorus12kg/ha, Potash 260kg/ha, Copper 1.52 PPM, Iron 11.16 PPM, Manganese 1.77 PPM and Zinc 2.50 PPM.

Medicinal uses: Extract of leaves and root is used as cough, malaria, veneral disease, wounds, toothache, rheumatism, colic, gonorrhea, fever and diabetes. Twigs are chewed to treat toothache by tribal people.

20- *Withania somnifera (L.)*Dunal. , Ashwagandha (H).

Erect, perennial under shrub ,up to0.50-1.5 m in height, leaves elliptic oblong or ovate-rounded; base acute ,recurrent, pedicels short and thick, corolla campanulate,3-6 lobed, velvet greenish yellow, stamens attached near corolla base, ovary and style glabrous, berry, globose ,reddish, seeds discoid.

Soil Profile: common growing near grasslands and wastelands, soil clayish and loam, pH 8.80,pH, Electrical conductivity 0.26 mm ho/sec, organic carbon 0.63%, Available Phosphorus16kg/ha, Potash 103 kg/ha, Copper 1.3 PPM, Iron 7.12 PPM, Manganese 5.6 PPM and Zinc 1.24 PPM.

Medicinal uses: Root is sedative, tonic, bitter, stimulant and aphrodisiac. It is used to cure ulcers, cough, dropsy, Leucorrhoea and menstrual troubles. Fruit is sweet, applied to wounds, asthma and piles.

In the present study nearly twenty angiospermic medicinal plants have been subjected to their study and

these have been collected from various parts of district. Their taxonomical, ecological and medicinal details have been summarized in the given table-1along with their illustrations(See Table 1 &Plate1figs 1-9).This is the first illustrated report dealing with medicinal plants from Allahabad district. Due to the large scale intense human activities, medicinal plants of Allahabad district are being depleting rapidly in their numbers. If suitable measures are not being taken immediately for their ex- situ and in-situ conservation,some of these threatened medicinal plants may soon become disappear.

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