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Ethnomedicinal Plants Grown in Rajasthan

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ABSTRACT: Rajasthan is the largest state in India, geographically lies between 23°3' to 30°12'N longitude and 69°30' to 78°17'S latitude and is rich in diversity of medicinal plants. Numerous literatures show the medicinal values of different plants standing from the age of Vedas. A lot of work has been also done on ethnomedicinal plants used for various ailments by different tribal communities and researchers in Rajasthan. This article highlights some important medicinal plants of Rajasthan and their therapeutic use in daily life.

KEYWORDS: ethnomedicinal, Vedas, literatures, Rajasthan, therapeutic, ailments, value, tribal, diversity, state

I. INTRODUCTION

Balanites aegyptiaca

Balanites aegyptiaca belongs to Zygophyllaceae family. In India, it is widely distributed in Rajasthan, Gujarat, Madhya Pradesh, and Deccan. It has been reported that the plant has anthelmintic, insecticidal, antidiabetic, antimicrobial, antibacterial, antifungal, hepatoprotective, anticancerous, antiparasitic, anti-inflammatory, molluscicidal and antioxidant properties.

It is traditionally used in treatment of various diseases i.e. jaundice, intestinal worm infection, wounds, malaria, syphilis, epilepsy, dysentery, constipation, diarrhea, hemorrhoid, stomach aches, skin boils, leucoderma, malaria, wounds, colds, syphilis, liver and spleen disorders, asthma, snake bite and fever. The bark of the plant is useful in curing mental diseases, yellow fever, jaundice and syphilis and can also act as a fumigant to heal circumcision wounds. Fruit kernel has been found as a mild laxative, an antidote to arrow poison, and also acts as a vermifuge. Kernel oil helps in curing skin disease. The seeds are useful as ointments, to cure cough, colic pain and also have magicoreligious properties.

Calligonum polygonoides

Calligonum polygonoides is a member of family Polygonaceae. It is a small leafless shrub, which has a reputation in folklore medicine as a stimulant and astringent. It grows on sand dunes of Barmer, Bikaner, Churu, Jaisalmer, Jhunjhunu, Nagaur, Sikar and Shri Ganganagar.

Leaves and stems are chewed to wash teeth and to treat gummosis while young shoots infusion is used as tonic. Root's paste is applied on the affected areas for the treatment of prickly heat and scabies. Decoction is used for the treatment of sore gums, typhoid. Flowers buds are effective in sun stroke. Flowers paste are also used for the treatment of asthma, eczema, cough and cold. It is reported that juice of the plant is applied in eyes to remove poisonous effect of *Calotropis procera*.

Calligonum polygonoides possesses hypoglycemic, cytotoxic, antioxidant, antimicrobial, anti-cancer, antiulcer, anti-inflammatory, antifungal, and mosquitocidal activities.

Citrullus colocynthis

This plant belongs to family Cucurbitaceae, commonly known as Chitrapala or Bitter apple. It is found widely in the sandy lands of North West, the Punjab, Sindh, and Central and Southern India, and Coromandal coast. *Citrullus colocynthis* shows mild stomachic, bitter tonic, anthelmintic, anti-cancer, antioxidant, antimicrobial, antidiabetic, analgesic, antipyretic, anti-inflammatory, carminative, diuretic and anthelmintic property.

Citrullus colocynthis is used generally in the cure of various diseases such as leprosy, gut disorders, diabetes, constipation, asthma, indigestion, colic, rheumatism, hypertension, gastroenteritis, dysentery, bronchitis, jaundice, joint pain, cancer and mastitis.[1,2]

Commiphora wightii

Guggulu consists of oleo-gum resin obtained as an exudate from the tapping of stem and branches of *Commiphora wightii* (Arnott) Bhandari; Family, Burseraceae. The plant is commonly known as guggal, gugar, and Indian bdellium tree and is found in arid areas of India, Bangladesh, and Pakistan. In India, it is found in Rajasthan, Gujarat, Assam, Madhya Pradesh, and Karnataka. It is a small, bushy tree with thorny branches and produces a yellowish gum resin (guggulu) in small ducts located throughout its bark. Guggulu possesses hypolipidemic, anti-inflammatory, anti-arthritis, antifertility, Anti-atherosclerotic, astringent, anti-septic, anti-inflammatory, analgesic, wound healing, anti-obesity, anti-spasmodic activity.

In Indian traditional system of medicine, guggulu has been used for thousands of years in the treatment of arthritis, inflammation, stimulates libido, nervous diseases, bronchial congestion, cardiac and circulatory problems, weak digestion, wounds, abscess, foetid ear, fractures, gout, skin rashes, irregular menstruation, diarrhea, headache, mild nausea, liver toxicity, rheumatism, obesity, and disorders of lipids metabolism.

Cordia myxa

Cordia myxa belongs to family Boraginaceae, is also known as clammy-cherry, glueberry, Indian-cherry in English and Gondi in Hindi. Pharmacological studies revealed that *Cordia myxa* possessed analgesic, anti-inflammatory, immunomodulatory, antimicrobial, antiparasitic, insecticidal, cardiovascular, respiratory, gastrointestinal and protective effects.

Cordia myxa was eaten to suppress cough and for the treatment of respiratory infections and a sore throat, as it has demulcent properties. The pulp was also applied as an emollient to mature abscesses, to calm rheumatic pain and as an anthelmintic. Fruit pulp is applied on ringworm. Leavs' paste was applied to wounds and ulcers.

Gymnema sylvestre

Gymnema sylvestre belongs to family Asclepiadaceae, is also known as 'gurmar' or 'sugar destroyer' (If the leaves of the plant are chewed, the sense of taste for sweet and bitter substances is suppressed) 23. *Gymnema sylvestre* is a slow growing, perennial, medicinal woody climber found in southern part of China, Tropical Africa, Vietnam, Malaysia, and Srilanka and is widely available in Japan, Germany, USA, central and peninsular India (mostly in Rajasthan, Bihar, West Bengal)23. The bioactive compounds of plant have antidiabetic, atherosclerotic, antimicrobial, antiarthritic, antibiotic, hypolipidaemic, immunostimulatory, hepatoprotective, anti-hyperglycemic, antipyretic, diuretic, anti-inflammatory, wound healing and anticancer properties.

Gymnema sylvestre is a traditional medicinal plant, with reported use as a remedy for diabetes mellitus, stomachic and diuretic problems. Its use has been indicated in adenopathy, cough²⁷, asthma, alexipharmic, anthelmintic, astringent, biliousness, bronchosis, cardiopathy, conjunctivosis, cornea, dysuria, digestive, emetic, expectorant, fever, furunculosis, glycosuria, hemorrhoid, hepatosplenomegaly, inflammation, jaundice, leukoderma, rheumatismopacities, ophthalmia, and worm²⁸. The roots of *Gymnema sylvestre* has also been used in snake bite, boil, constipation, and water retention, epilepsy, pain, high cholesterol, IDDM, NIDDM and obesity.

II. DISCUSSION

The history of medicine is linked with evolution of mankind. Since disease, decay and death have always co-existed with life, the study of disease and their treatment must also have been contemporaneous with the dawn of human intellectuality. The primitive man must have used those therapeutic agents and remedial measures. Vedas are written documents of this knowledge up to the time of curative herbs. Among traditional medicines, Ayurveda has a major role designated as the science of life. Ayurveda is the Indian system of medicine whose foundation was laid down by Charak, Sushruta and others like Bag Bhatta, Chakradatta, Bhav Prakash, and Bag Sen etc. The practice of medicine among tribal people and villagers follows the same pattern of two thousand years ago, there is hardly any change. Rajasthan has 70.97 lacs tribal population (fifth rank in India) forming 12.5% of state's total population which is concentrated mainly in ten districts viz. Baran, Banswara, Chittorgarh, Dausa, Dungarpur, Karauli, Pratapgarh, Rajsamand, Sawaimadhopur, and Udaipur. In the eastern Rajasthan, main tribal community is Meena and traditional communities are Gurjar, Jogi, Kanjar, Sansi, Mali, Mongia etc. Above mentioned groups still live in remote areas and used local flora for their daily needs. In Rajasthan a lot of work on medicinal plants has been carried out. Joshi (1995) gave an overview of the ethnomedicine of tribals of Rajasthan. Katewa and Jain (2006) reported total 384 medicinal plant species used by the tribals of Rajasthan. These works were mainly carried out in southern Rajasthan. Sen (1999) studied home remedies of different communities of Jaipur district whereas Shekhawat and Batra (2006) of Bundi district. Agrawal (2017) published work on ethnobotany of Siliserh, Alwar. Kumar (2009) collected data on ethnomedicinal plants of Jaisalmer district. Meena et al. (2003) documented ethnomedicinal plants of Karauli district.

It is evident that very little work has been carried out on ethnomedicinal plants of eastern Rajasthan and therefore there is a great scope to study traditional medicines used by the natives of the area

1. *Acacia catechu* The gum is eaten raw in arthritis, body heat and as tonic. It is also used to prepare sweet preparation (laddoos) eaten in joint pain, lumbago and general sickness in female. Gum powder is mixed with ghee and unrefined sugar is kept in an earthen pot for 7-8 days. This is taken three days before menses for conception. Bark is chewed to get relief in cough and stomatitis. Kattha extracted from its heart wood is smeared locally against scabies and other skin diseases.
2. *Acacia nilotica* The stem bark is either chewed with salt or boiled in water and taken orally or gargled to cure cough and mouth sores. The pod paste mixed with candy is consumed empty stomach in the morning by women in case of leucorrhoea. Seeds are grounded with sugar candy and eaten by women for conception. Seed powder is filled in the anus of infants against worm infestation. The bark is crushed with that of *Azadirachta*, mixed with lemon juice and applied as an ointment against ringworm.
3. *Acalypha indica* Leaf or root extract is given orally to diabetic patient. The root paste is made into tablets and one tablet is taken daily in empty stomach as a laxative to avoid constipation and colic. Root powder is taken with milk to cure bronchitis, pharyngitis and pneumonia. Poultice of green leaf paste is tied over lower part of abdomen for relief in spasmodic retention of urine. [3,4]
4. *Achyranthes aspera* The root paste is smeared over forehead to cure headache. The root and stem are used as toothbrush to prevent dental caries, swollen gum and pyorrhoea as well as to strengthen teeth. Crushed root is kept between teeth against toothache. The root is burnt with tobacco leaves and fumes are inhaled by asthmatic patient. Root decoction cures cough, cold and typhoid. The root powder is taken orally by women against leucorrhoea. Root paste is applied locally over scabies. Root boiled in water is used to take bath to get rid from itching due to pods of *Mucuna*. The leaves are crushed with jaggery (3:1) to make 5-6 pills which are taken orally to treat thorn injury. Seed paste taken with milk cures dysentery. Seeds boiled with milk and sugar are eaten as tonic.
5. *Albizia lebbek* The decoction of leaves and flowers is used as gargle against weak and spongy gums and chronic pharyngitis. Stem bark boiled in water is gargled in pyorrhoea and toothache. Seed paste is applied in eyes to get rid from cataract. Seed paste wrapped around cotton wick is burnt and soot collected in an earthen pot is applied daily in eyes to cure cataract.
6. *Allium cepa* 2-3 drops of bulb/leaf juice are dropped in ear to relieve pain. Leaf juice is applied in toothache. Bulb juice is dropped in eyes to cure conjunctivitis. It is also smeared over forehead, soles and palms to cure heatstroke and applied against scorpion sting and insect bite. Roasted bulb is rubbed against scorpion sting or paste of bulb mixed with Hukka's (indigenous smoking device) water is tied locally. Poultice made using crushed bulb and turmeric powder is tied over sprain. Seed paste is applied in dental caries. Bulb paste mixed with powder of *Trachyspermum ammi* seeds and dried pods of *Moringa oleifera* is boiled in whey and eaten to cure low blood pressure.
7. *Annona squamosa* Seed paste is applied to uterus of pregnant lady for abortion. 10. *Asparagus racemosus* Root powder is taken with milk as lactagogue and to increase sexual potentiality. The root is eaten to cure stomachache. Boiled crushed roots and leaves are applied locally on boils.

III. RESULTS

Tribal and traditional communities used 30 plant species ethnomedicinally to treat 81 diseases. Most common diseases are abdominal disorders, body pain, cough and cold, cut and wounds, diarrhea, fever, scorpion sting and toothache. The various mode of administration are as follows: 1. Plant part made edible either by powdering, burning, roasting, soaking in water or frying and mixing with other ingredients or food. 2. Raw plants /parts /products. 3. Extract by crushing or pounding fresh plant or slicing it. 4. Juice /simple rubbing /smearing of plant part or paste. 5. Poultice. 6. Decoction / gargle. 7. Ash of plants. 8. As tooth brush /chewing. 9. Oils. 10. Cooking as vegetables, laddoos. 11. Inhaling the fumes. 12. Tying drug to body part. 13. Tablets /pills. The different parts of plant e. g. stem, stem bark, leaf, flower, fruit, seeds, latex, gum, root, root bark, bulb, or whole plant are used to cure different ailments.

Tribal communities and ethnic races, throughout the world, have their own distinct culture, belief, taboos, totems, religious rites, medicine, traditional habit of foods, agricultural practices, etc. A large number of wild and cultivated plants are being used by these tribal groups for the treatment of various ailments, thus a considerable amount of information on medicinal plants is available with these communities.

Rajasthan is one of the largest state located in the North-western part of India. The southern part of Rajasthan state comprises of a large population of tribal communities belonging to various ethnic groups. These forest dwellers live in forests and possess a vast knowledge on various aspects of plants. Ninama, Damor, Garasia, Bhagora, Katara etc., are the main tribes of this region. These people are largely dependant on their traditional healing system for their healthcare and this information is passed on from generation to generation through the verbal communication without any written documentation. An attempt has been made to collect the information about plants used by these ethnic societies in their traditional healthcare system. They possess a vast knowledge on the ethno-biological uses of plants. These tribes move around the forest for their day-to-day requirements, cultural activities, beliefs, taboos, totems and performing religious rituals. Forest resources are the only means of livelihood for catering to the need of food, fodder, fuel, medicine etc (Meena and Yadav, 2010). They have accumulated enormous knowledge of the treatment of their cattle through herbs and sustainable use of plant species available to them in their native lands.[5,6]

In Banswara, different plant species are the major source of folk medicine. The present study is an attempt towards a complete probe on the role of plants in medicines, especially by the people of Ghatol Tehsil of Banswara. In the various regions of study area, different plant species are the major source of local medicine for their ailments.

Enumerations: In the present study, the plants are arranged alphabetically. Other information provided includes name of family, brief description, plant part used and mode of utilisation, voucher number and date of collection .

Acacia catechu (L. Khair f.) Willd (Mimosaceae): A deciduous, thorny tree which grows up to 15 m (50 ft) in height. Leaves bipinnate compound; stipules spiny, flowers pale yellow, sessile, in long solitary or in groups of 2-4 axillary spikes.[7,8]

The paste of the bark is applied locally in stomatitis. The exudates of the plant are given orally in case of difficult child birth. It is digestive and have cooling effect on human body. Traditional healers believe that the trees also have antileprotic properties. The extract of the seeds have antifungal properties and can be useful in some skin diseases. It is also useful in women diseases .

Acacia nilotica (L.) Babool Wild. Ex *Delile sp. indica* (Benth.) Brenen (Mimosaceae): It is a small to medium-sized tree. It's bark is dark brown to almost black, thorns in pairs, straight, often typically pointing backwards, leaves compound, flowers in spherical heads, pods distinctive, constricted in between the seeds.

The fruit powder along with sugar is taken orally in case of dysentery. Bark latex is used in cholera treatment. Raw fruits have medicinal values in women diseases and check excessive bleeding during menstruation. It is also used in urino-genital disorder (23.09.2011, 218 SGG).

Acacia senegal L. Willd. (Mimosaceae): It is slender like tree with long erect, straggly branches, hooked prickles in tree, leaves with 3-5 pairs of pinnae, bearing grey-green leaflets, flowers in axillary spikes, white, appearing before the leaves.

The gum is taken orally in cases of inflammation of intestinal mucosa. This gum is also used on burning and other inflamed area. Fruits are stored for future use as vegetable (24.09.2011, 211 SGG).

Acalypha indica L. (Euphorbiaceae): Erect annual herb is up to 1.2 m tall. Leaves are rhombic-ovate, flowers axillary spikes, unisexual on the same inflorescence, female flowers are larger comparatively below the male flower, held in shallowly cup-shaped bracts with toothed margins.

Whole plant is used for bronchitis, asthma, pneumonia, rheumatism and ulcers. Leaf juice is emetic and can induce vomiting if needed. A poultice of fresh leaves useful in ulcers .

Achyranthes aspera L. (Amaranthaceae): It has slender erect perennial herb, sometimes climbing or scrambling. The leaves are often covered in silvery indumentum when young. Flowers are greenish to silvery-white, often tinged with purple-red. The ash of whole plant is mixed with maize flour to make a cake, locally called "PANIA" which is given to patient of cold and cough specially before going to bed.

Whole plant has diuretic and stringent properties so used in relevant problems .

Aegle marmelos L. Correa (Rutaceae): Its tree is up to 12 m tall, deciduous, leaves-alternate, trifoliolate, flowers bisexual, greenish white or yellow, fragrant.

Reputed medicinal properties of ripe fruits for curing chronic dysentery, habitual constipation, dyspepsia, vomiting, fever, piles, diabetes, brain tonic and soothing agent are widely known to the tribal communities. It is a divine gift for stomach and intestine. Leaves chewed every morning with black pepper help in healing stomach ulcer .

Aerva javanica (Burm. f.) Juss. ex Schult. (Amaranthaceae): Plant is much branched, erect and perennial under shrubs, up to 1 m high, stem covered with thick, easily detachable tomentum. Leaves are alternate, flowers unisexual, dull-white, spikes.

The decoction of whole plant is used for swelling (24.09.2011, 232 SGG).

Ageratum conyzoides L. (Asteraceae): Aromatic herbs are flowers of bluish-white colour with globose heads. Fruits are black with pappus hairs.

These are used in stomach disorders as a tonic, sexual weakness, cough, asthmatic problems and traditional folk healers (23.09.2011, 66 SGG).[9,10]

Amaranthus spinosus L. (Amaranthaceae): It has annual herb, mostly erect, up to 1.5 m, leaves glabrous or with sparse hairs. Flowers green in axillary clusters and branched terminal spikes. Male flowers on the apical part of the spikes.

Whole plant is used as blood purifier, in piles, as digestive agent, laxative and abortifacient (23.09.2011, 250 SGG).

Asparagus racemosus Wild. (Liliaceae): It is woody perennial climbers, stem often spinescent, green, cladodes from the axils of scale leaves in clusters of 2-6, flowers bisexual.

To treat white discharge in women, broken fresh tubers mixed with milk to improve sperm count (03.10.2012, 249 SGG).

Azadirachta indica A. Juss. (Meliaceae): It is evergreen tree, up to 20 m, bark greyish-brown, vertically striated, exudation red and sticky. Leaves are imparipinnate, flowers (white and fragrant) are arranged in more-or-less drooping axillary panicles. The fruit is smooth (glabrous) olive-like drupe.

Plant is considered as a divine tree and great gift of nature to cure human problems. Different parts of plant used to treat boils, abscesses, adenitis, eczema, ulcers, skin diseases, rheumatism, fever, stomachic and toothache (23.09.2011, 220 SGG).

Bauhinia purpurea L. (Caesalpiniaceae): Plant is perennial, trees, woody, erect or ascending, flowers red, blue, lavender to purple or violet actinomorphic or somewhat irregular.

It is used in constipation, gastric problems, headache and cosmetic .

Boerhavia diffusa L. (Nyctaginaceae): Its herb is with long trailing branches, stem reddish and tomentose. Leaves unequal; flowers 4 mm long, purplish red to reddish pink or nearly white.

It is used in kidney stones, jaundice and hepatic disorders .

Calotropis procera (Aiton) W.T. Aiton (Asclepiadaceae): Shrub or small tree with a rough corky bark, stems producing copious latex. Leaves are glaucous, flowers purplish-pink and white, fruits inflated, seeds with pappus of silky hairs.

It is used as anti-venom against snake bite, cough and cold, malarial fever, boils and to remove the thorn from the body and gastric problems .



Cassia fistula Schimp. ex Oliv (Caesalpiniaceae): A medium-sized, deciduous tree with drooping branchlets, flowers bright yellow, in drooping racemes. Pods are oblong, woody and black on mature.[26,27]

It is used as anti-helminthic, against ringworm and other skin infections, fever, purgative in all intestinal disorders and laxative (23.09.2011, 280 SGG).

Cassia tora L. (Caesalpiniaceae): A small annual herbs or undershrub growing as common weed, the herb is 1-2 m, leaves compound, paripinnate, flowers brightly yellow and axillary, fruit long pods-globose red.

Fresh or dried leaflet has been used as folk medicines in for treatment of constipation, stomach pain and ringworm and skin disease (23.10.2012, 76 SGG).

Cynodon dactylon L. Pers. (Poaceae): Perennials, terrestrial, stolons or runners, stems trailing, spreading or prostrate. Leaves mostly cauline, inflorescence a panicle with narrowly racemose or spicate branches, flowers bisexual, spikelets sessile or subsessile and laterally compressed.[11,12]

It is used for boils, diabetes, piles and chronic gleet (23.09.2011, 277 SGG).

Dalbergia sisoo Roxb. ex DC. (Fabaceae): It is perennial, woody tree, stems erect or ascending and solid, flowers pinkish to rose, fruit legume, 2-seeded.

Leaves and bark on inflamed mammary glands (23.09.2011, 290 SGG).

Datura stramonium L. (Solanaceae): It is erect, usually dichotomously branched, annual or short-lived perennial herb, up to 1.5 m tall. Flowers solitary in the forks of the branches, white to pale mauve-purple, sometimes darker purple in the tube.

Asthma and ophthalmic problems

Eclipta alba (L.) Hassk (Asteraceae): It is annual herb, usually having prostrate or decumbent stems. Leaves subsessile; capitula solitary in the upper leaf axils, 6-10 mm in diameter. Ray-florets, 1-2 seriate, short, numerous, white.

Hair tonic, enlarge liver and spleen, skin diseases .

Emblica officinalis L. (Euphorbiaceae): Its tree 3-8 m tall, deciduous with bark brownish. Leaves distichous, stipules triangular-ovate; fascicles with many male flowers and sometimes 1 or 2 larger female flowers; fruit- drupe, globose, pale green or yellowish white.

For sores, pimples, laxative, refrigerant and diuretic .

Euphorbia hirta L. (Euphorbiaceae): Herb, annual, 30-60 cm tall, stem branched from middle or above, ascending to erect, rarely prostrate. Leaves opposite, cyathium in dense, often head like, pedunculate cymes at upper nodes and campanulate involucre. Male flowers 4 or 5, female flower pedicel short, exserted from involucre.

It is used against worms, asthma, vomiting and ulcers .

Evolvulus alsinoides L. (Convolvulaceae): It is herb, perennial, stems soft, prostrate or ascending, slender, with spreading hairs. Leaves are petiolate or subsessile, simple, alternate. Flower axillary, solitary; blue with white throat, flowering throughout the year.[23,24]

Whole plant Febrifuge, enhance memory, asthma .

Ficus benghalensis L. (Moraceae): It is tree, evergreen, up to 30 m, aerial root often descending to ground level and forming pillar-roots. Bark of trunks and older branches brown, smooth; leaves leathery, stipules stout, leaf blade ovate, base cordate, margins entire, apex obtuse; surfaces abaxially puberulent, adaxially glabrous.

It is used in obstinate vomiting, piles, boils and blisters, diarrhoea, sexual impotency, prevent loss of hair, rheumatism and leucorrhoea (23.09.2011, 98 SGG).

Ficus religiosa L. (Moraceae): It's tree, evergreen or deciduous, 6-15 m tall, trunk 2-3 cm in circumference with spreading branches and usually without aerial roots, barks grey, fissured, young twig pubescent with pink new leaves. Leaves with a pale-green lamina, hypanthodia sessile, in axillary pairs. Male flowers sessile in a single ostiolar whorl or sometimes absent, female and gall flowers are sessile or pedicellate; fruit/figs depressed globose, dark-purple on maturity.[13,14]

It is used for inflammatory ulcers and prevent conception forever, leucorrhoea, impotency, astringent, expectorant laxative, conceptive, asthma and whooping cough (23.09.2011, 96 SGG).

Jatropha curcas L. (Euphorbiaceae): Plant is glabrous shrub or small tree to 6-8 m, stems fleshy, copiously emitting a watery or milky sap. Leaves long-petiolate; lamina broadly ovate in outline, usually shallowly five-lobed, sometimes unlobed; flower terminal or axillary diachasial cymes; greenish-yellow. Fruits are ellipsoid, scarcely 3-lobed and flowering from April-July.

It is used for dysentery, colitis, to promote lactation, stomach disorders, toothache, rheumatism antidote for poisoning and purgative .

Lawsonia inermis L. (Lythraceae): Plant is fragrant shrub up to 2.5 meter tall. Leaves elliptic, ovate or obovate, arrange opposite decussate; flower terminal panicles, cream, fragrant. Flowering from January-April; fruit-capsule, globose, seeds many and flat.

It is used for controlling birth, spermatorrhoea, hair dye and yellow fever .

Mangifera indica L. (Anacardiaceae): It is large tree, flowers greenish-yellow, in terminal and axillary panicles, drupes 5-6 cm long, ovoid, greenish-yellow.

Indigestion and gastric problems, aphrodisiac, cardiac, appetizer and astringent, jaundice and skin infections

Mimosa pudica L. (Mimosaceae): It diffuse herbs with sharp prickles. Flowers pale rose, axillary with globose heads. Pods linear-oblong.

It is applied externally over wounds, diarrhoea, dysintry and colitis .

Momordica balsamina L. (Cucurbitaceae): Perennial climber with prostrate or scandent stems up to 2.7 m long. Tendrils simple, leaves broadly ovate to almost circular in outline, deeply 5-7 lobed, each lobed often 3-5 lobed again, deeply cordate at the base. Flowers unisexual on the same plant, solitary; pale yellow, cream or white, darker at the base, often green-veined. Fruit ovoid, tuberculate, beaked, 2.5 - 6.5 cm long orange-red to red when ripe.[21,22]

It is used as nutritive, diuretic, stomachic and blood purifier, jaundice and skin disorders, leucorrhoea diabetes .

Nerium indicum Mill. (Apocynaceae): An erect, gregarious evergreen shrubs up to 4 m high, latex milky; leaves leathery, linear-lanceolate, tapering at both ends, acuminate, thick coriaceous, midrib prominent, nerves numerous, petiole 5-7.5 mm long. Flowers white, pink or dark red, single or double in cultivated.

Bark, leaves, flower are used as cardio tonic, diuretic, cure jawache, toothache .

Oxalis corniculata L. (Oxalidaceae): Trailing herb with digitately trifoliolate leaves. Flowers yellow with long-peduncled pseudo-umbels; capsules oblong, acuminate.

It is used for sexual weakness, cough, dropsy, diuretic, traditional folk healer .

Phyllanthus emblica Schum. and Thonn. (Euphorbiaceae): Annual herbs, leaves bipinnate, flowers greenish-yellow, in axillary fascicles.[15,16]

It is used for diabetes, leucorrhoea, diuretic, liver tonic, given in jaundice .

Pterocarpus marsupium Roxb. (Fabaceae): Large tree with imparipinnate leaves, flowers yellow in terminal and axillary racemes or panicles. Pod stipulate and auricular. Water stored for 12 h in tumbler made out of the heartwood of the tree is taken internally for cardiac problems and diabetes.

Roots, leaves are used for sexual weakness, cough, dropsy, diuretic. Roots are used in several ailments by the traditional folk healers .

Ricinus communis L. (Euphorbiaceae): Glauous shrubs, leaves alternate, palmately compound 6-8-lobed, monoecious, flowers in terminal paniculate racemes, pale yellow, male flowers below, female ones above; male flowers- perianth cupular, 3 to 5-lobed, lanceolate; stamens many, filaments connate. Female flowers- tepals 5, subequal, lanceolate, ovary globose, trilobular, echinate, ovule unilocular, styles 3, papillose. Capsule 3-lobed, prickly. Seeds oblong, smooth, marbled with caruncle.

It is used in rheumatism, menses pain, headache; rat killer, purgative, carminative, aphrodisiac, diagnosis of urinary problems .

Tridax procumbens L. (Asteraceae): Annual or sometimes perennial, prostrate to ascending herb; leaf simple with ovate lamina, opposite arrangement, margin coarsely and often deeply dentate, inflorescence Capitula 1-1.5 cm in diameter. Flower cream to yellow, flowering and fruiting throughout the year. Fruit a turbinate achene, smooth or faintly ribbed.

It is applied on wounds and cuts to stop bleeding .

Tylophora indica (Burm.F) Merrill (Asclepiadaceae): The plant is perennial, small, slender, a twining or climbing herb. Leaves are Ovate to elliptic, petioles are up to 12 mm long. Flowers are minute and corolla is greenish yellow or greenish purple in color. Fruit is a follicle.[17,18]

It has been traditionally used for the treatment of bronchial asthma, jaundice and inflammation. It has antitumor, immunomodulatory, antioxidant, antiasthmatic, muscle relaxant .

Withania somnifera (L.) Dunal (Solanaceae): Shrub of 60-90 cm high, branches ascending; leaves elliptic-ovate to broadly ovate, acute, cuneate or oblique, entire to repand. Leaf arrangement alternate-spiral, flowers sessile to subsessile, greenish-yellow; fruit a globose berry, orange, overtopped by the inflated, seeds pyriform to reniform discoid and trigonous, fruiting from July-December.

It used for sexual weakness, cough, dropsy, diuretic and traditional folk healer .

V. CONCLUSIONS

The tribals and rural people are dependent on herbal practices and have deep faith in their old treatise and traditions. Now days, much of the wealth of knowledge is being lost as the traditional culture is disappearing (Hamilton, 1995). So, documentation of traditional practices of herbal medicine will be coherence in future. There is an urgent need to study and document the precious knowledge of ethno-medicinal practices. Documentation of such information will go a long way in developing new drugs through further researches. A large number of plant species occur in tribal inhabited localities of Banswara district that are the intellectual property rights of indigenous people and documentation of such knowledge is necessary. The tribal community possess a vast knowledge regarding multifarious uses of plants.[19,20]



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