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### A study on plants of medicinal use in Chambal ravines of Madhya Pradesh

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#### Abstract

India, which is one of the 12 biodiversity rich countries, is a veritable treasure house of valuable medicinal, aromatic and dye herbs, trees and shrubs and accounts for 7% of the worlds' biodiversity. The present study had been done on the basis of available literature or past work in the Chambal ravine region on different aspects with the objective of "To accumulate the information about plants having medicinal value in Chambal region of Morena district in Madhya Pradesh". The study shows that this region have very diversified flora, which can be used as a medicine or as the additional income source for local livelihood. This is very good alternate for rural poor's to generate the employment through collection of medicines and conserve them for future generation.

**Keywords:** Chambal, Ravine, Medicinal Plant, Livelihood Security and Biodiversity

#### Introduction

All cultures from ancient times till date have used plants as sources of medicine. Throughout the world, there are approximately 30,000 species of medicinal plants which include about 5000 genera and more than 1,000 families and sub-families. The geographical spread of the medicinal plants is very huge, about 70% of them are found around the tropics and rests are in other vegetation types. India alone supports about 4,700 of different medicinal plant species. Recent estimates suggest that over 9,000 plants have known medicinal applications in various cultures and countries, and this is without having conducted comprehensive research amongst several indigenous and other communities (Farnsworth and Soejarto. 1991) [11].

India, which is one of the 12 biodiversity rich countries, is a veritable treasure house of valuable medicinal, aromatic and dye herbs, trees and shrubs and accounts for 7% of the worlds' biodiversity. About 6000-7000 plant species are used in different traditional systems of medicine including the folk systems. According to the World Health Organization over 80% of the world's population, or 4.3 billion people, rely upon such traditional plant-based systems of medicine to provide them with primary health care (Bannerman et al. 1983). Thus demand for medicinal plant is increasing in both developing and developed countries due to growing recognition of the natural products being non-narcotic, having no side effects, easy availability at affordable prices and often the only source of healthcare facility available to the poor communities. The area under present study is an area of unique physiognomy famously known as Morena- when Chambal ravines world over and 'behaad' (the dynasty of dacoits) locally.

Nine hundred and sixty km. long Chambal river originates from the Singar Chouri peak in the northern slopes of the Vindhyan escarpment, which is 15 km. west-south-west of Mhow in Indore District of Madhya Pradesh. It is at an elevation of about 843 m. The river flows first in a northerly direction in Madhya Pradesh for a length of about 346 km. and then in north-easterly direction for a length of 225 km. through Rajasthan. The Chambal flows for another 217 km. between M.P. and Rajasthan and further 145 km. between M.P. and Uttar Pradesh (U.P.). It enters U.P. and flows for about 32 km. before joining the Yamuna river in Etawah district at an elevation of 122 m. The tributaries of the Chambal include Shipra, Choti Kalisindh, Sivanna, Retam, Ansar, Kalisindh, Banas, Parbati, Seep, Kuwari, Kuno, Alnia, Mej, Chakan, Parwati, Chamla, Gambhir, Lakhunder, Khan, Bangeri, Kedel and Teelar.

Chambal river is spread over 4 states of India; the major part of more than 4500 km being Gwalior-Chambal region. The Government of Madhya Pradesh state has declared the area under present study as a preferential area for the cultivation of medicinal and aromatic plants.

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The local communities are having Indigenous Knowledge (IK), which can be broadly defined as the knowledge that an indigenous (local) community accumulates over generations of living in a particular environment. IK encompasses all forms of knowledge – technologies, know-how skills, practices and beliefs – that enable the community to achieve stable livelihoods in their environment. A number of terms are used interchangeably to refer to the concept of IK, including Traditional Knowledge (TK), Indigenous Technical Knowledge (ITK), Local Knowledge (LK) and Indigenous Knowledge System (IKS). This indigenous knowledge is found stored in herbal medicinal practices of the medicine men or herbal practitioners. Recently, traditional knowledge has been drawn into the debate related to access to medicines, access to food, the need for poverty alleviation, and related issues that affect the livelihoods and welfare of people worldwide. It has been argued that traditional knowledge is an important source of health security, food security and livelihood security for the world's poor.

**Objective of study**

The present study had been done on the basis of available literature or past work in the Chambal ravine region on different aspects with the objective of “To accumulate the information about plants having medicinal value in Chambal region of Morena district in Madhya Pradesh”.

**Methodology**

The present study is an attempt to explore the medicinal importance of ravines of Morena district of Chambal command area. The secondary data about medicinal plants present in Chambal ravines were collected from the available literature and internet.

**Results and Discussion**

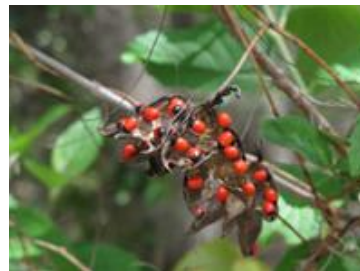
Medicinal plants may be defined as those that are commonly used in treating and preventing specific ailments and diseases and that are generally considered to have a beneficial role in health care.

Medicinal plants constitute one of the most important wild plants in terms of their contribution to the economy and well-being of farm households. They are collected or harvested from common lands and their growth near habitations. Medicinal and aromatic plants are in fact obtained from a wide range of habitats: ravines, wasteland, forests, fallows and agricultural crop fields. Different parts of the plant are used for medicinal purpose viz; leaves, roots, twigs, bark, fruits, seeds, and gum which have medicinal value.

**Identification and medicinal use of important medicinal plants available in Chambal ravine**

***Abrus precatorius***

Ratti is found to be containing a Very powerful poison known as abrin, which is a protein similar to the ricin. The seeds are having a beautiful bright red color with the black spot on it. The chewed seeds are when swallowed this is very deadly. Each Seed is about 8mm in length & 6mm in width with an average weight 105mg. These seeds were used by the Indian goldsmith for the purpose of weighing gold and silver. The actions of seeds are purgative, emetic, tonic, aphrodisiac and ophthalmic.



*Abrus precatorius*

***Abutilon indicum***

Kanghi has been used extensively as a home remedy in traditional Chinese and Indian form of medicine. The entire plant has medicinal value. The leaves are used as demulcent, aphrodisiac, laxative and sedative. The bark is astringent and diuretic; the seeds are considered to be a laxative, expectorant and demulcent.



*Abutilon indicum*

***Abutilon pannosum***

*Abutilon pannosum* is a perennial sub-shrub that forms a woody base and can also produce persistent, woody stems. It grows about 2 metres tall. The plant is sometimes gathered from the wild for local use as a food and medicine. The plant contains mucilage. It is used to treat diarrhoea, dysentery and stomach troubles [Burkil, 2004] [6].



*Abutilon pannosum*

***Achyranthes aspera***

*Achyranthes aspera* (common name: prickly chaff flower, devil's horsewhip, (Sanskrit: *apamarga*) is a species of plant in the Amaranthaceae family. It is distributed throughout the tropical world. It can be found in many places growing as an introduced species and a common weed. It is an invasive species in some areas, including many Pacific Islands environments.

*Achyranthes aspera*

distributed throughout the tropics and became naturalized in many areas, including Cape Verde, Jamaica, Nepal, Indonesia, Vietnam and Australia. It is widely cultivated in the Indian subcontinent. *A. nilotica* is an imperative multipurpose plant that has been used broadly for the treatment of various diseases (Singh *et al.*, 2009b) [26]

*Acacia nilotica*

### *Acacia nilotica*

*Acacia nilotica* is native to the drylands of tropical Africa and western Asia, eastwards as far as India, Myanmar and Sri Lanka. In Africa it occurs from Senegal to Egypt and southwards through eastern Africa to Mozambique and South Africa (Natal) and the Indian Ocean islands. It has been

**Table 1:** Some common medicinal uses of different parts of *A. nilotica*

Part used	uses	References
Root	The roots are used against cancers and/or tumor (of ear, eye or testicles), tuberculosis and indurations of liver and spleen	Kalavani and Mathew, 2010 [15]
Leaf	Chemopreventive, antimutagenic, anti-bacterial, anticancer, astringent, anti-microbial activity, tender leaves are used to treat diarrhoea, aphrodisiac, dressing of ulcers, anti-inflammatory and Alzheimer's diseases.	Kalavani and Mathew, 2010 [15]; Shittu 2010; Kalavani <i>et al.</i> , 2010.
Gum	Astringent, emollient, liver tonic, antipyretic, and anti-asthmatic	Baravkar <i>et al.</i> , 2008
Stem Bark	Anti-bacterial, Antioxidant, anti-mutagenic, cytotoxic bark is used as astringent acid cooling, styptic, emollient, anthelmintic, aphrodisiac, diuretic, expectorant, emetic, nutritive in hemorrhage, wound ulcers, leprosy, leucoderma, small pox, skin disease, biliousness, burning sensation, toothache, dysentery and seminal weakness. The trunk bark is used for cold, bronchitis, diarrhea, dysentery, biliousness, bleeding piles and leucoderma.	Agarwal <i>et al.</i> , 2010; Del, 2009; Kalavani and Mathew, 2010 [15]; Kaur <i>et al.</i> , 2005; Singh <i>et al.</i> , 2009; Singh <i>et al.</i> , 2008a
Seeds	Spasmogenoc activity and antiplasmodial activity.	El-Tahir <i>et al.</i> , 1999; Amos <i>et al.</i> , 1999;
Pods	Anti-hypertensive and antispasmodic, anti-diarrhoeal, astringent, anti-fertility and against HIV-PR, Inhibited HIV-1 induced cytopathogenicity, antiplatelet aggregatory activity and antioxidant	Gilani <i>et al.</i> , 1999; Asres <i>et al.</i> , 2005; Shah <i>et al.</i> , 1997; Singh <i>et al.</i> , 2009.

### *Adhatoda zeylanica*

*Adhatoda zeylanica* is a plant. It is distributed all over the plains of India and in the lower Himalayan ranges, ascending to a height of 1500 metre. *Adhatoda zeylanica* belongs to the family Acanthaceae. Its leaves contain vasicine, attributing several properties to the use of this plant. The bronchodilatory and expectorant properties of the leaves are attributed to vasicine (Sen and Ghosh 1925). The drug possesses abortifacient activity and significant antimicrobial activity against gingival inflammation and pyorrhea (IHP-2002).

*Adhatoda zeylanica*

### *Aegle marmelos*

'Bael tree' is native to India and a sacred plant to Hindus. It has got immense medicinal values. All the parts of the plant are useful and used in Ayurvedic medicines. Hindus use the leaves to worship Lord Shiva (Bilwa patra) and keep them on Shivlinga and they consider it is very auspicious and to get the blessings of Shiva. The Bael leaves are also used on Vinayakachavithi festival to worship Lord Ganesha. The plant is of medium size hard and the fruits are yellowish or green with soft pulp inside of medicinal value. The Bael fruit is bitter in taste and used in Ayurvedic medicine to cure Vata and Kapha disturbances in the body. The fully ripened fruit is not of much use in medicines. Half ripe fruits are mostly used in medicine.

*Aegle marmelos*

### Medicinal uses of the Bael

- Bael is bitter and acrid. It stimulates production of bile
- It is a restorative and increases body's resistance and immunity.
- Bael improves digestion
- Ripened fruits are used in the preparation of a drink (Sharbhat)
- Bael powder is also used for medicinal purpose
- The leaves of the Bael plant are used in Ayurvedic medicine to cure and control diabetes. The juice is extracted from the leaves and taken every day morning on empty stomach. It is said that it controls the blood sugar levels and bring it to normal levels in about a month.
- The fruits are used to control diarrhea. The unripe fruits are collected and the pulp is dried and powdered. The dry powder if taken with water or fresh curd three times a day to control diarrhea.
- Bael extracts are also used to control cholesterol and blood urea.
- Bael is also useful in relieving constipation. Regular use of Bael extract or powder prevents constipation.
- Fresh Bael leaves extract mixed with honey and taken can cure stomach pain and constipation.
- The paste of the leaves is said to relieve joint pains and swellings if used as a poultice.

### *Alhagi maurorum*

*Alhagi maurorum* is a species of legume commonly known, variously, as camelthorn, camelthorn-bush, Caspian manna, and Persian mannaplant. *Alhagi maurorum* has been used locally in folk medicine as a treatment for glandular tumors, nasal polyps, and ailments related to the bile ducts (Jmaes 2011) [14].



*Alhagi maurorum*

### *Amaranthus viridis*

*Amaranthus viridis* is an erect, smooth, branched unarmed herb, 30 to 60 centimetre high. Leaves are alternate, ovate, long-petioled, 4 to 10 centimetre long, obtuse tip, usually notched, base truncate or decurrent. Flowers are very small, densely disposed, green, 1 millimetre long. Sepals are 5, or 1 to 3, ovate to linear, often aristate. Inflorescences are terminal, axillary, simple or paniced, interrupted spikes. Fruits are compressed, indehiscent or circumcised utricles. Seeds are black or brown, orbicular.

The plant is cooling, alexiteric, laxative, stomachic, appetizer and antipyretic; used in burning sensation, hallucination, leprosy, bronchitis, piles, leucorrhoea and constipation. The leaves are used as an emollient. The root is heating and expectorant; lessens the menstrual flow; useful in leucorrhoea and leprosy.



*Amaranthus viridis*

### *Ammannia baccifera*

It is annual and herbaceous, and can be found in marshes, swamps, rice fields and water courses at low elevations. The bitter herb is an appetizer, stomachic and is useful in treating biliousness [bad digestion, stomach pains, constipation, and excessive flatulence (passing gas)]; the leaves are beneficial for removing phlegm from the lungs and trachea.



*Ammannia baccifera*

### *Ampelocissus latifolia*

A large herbaceous climber with forked tendrils. Leaves 15-20 cm by 15-20 cm, orbicular, angled or lobed, crenate-serrate, cordate, often tinged with pink or purple beneath. Flowers small, dark red, in pyramidal paniced cyme. Fruit globose, black, succulent. Plant is used in muscular pain, sores, pneumonia and bone fracture. Decoction of the stem bark is given in stomach pain. Root paste is applied to wounds to heal; decoction is given in cases of chronic dysentery.



*Ampelocissus latifolia*

### *Anisomeles indica*

*Anisomeles indica* was used in Ayurvedic traditional system of medicine for the treatment of urinary affections in Nepal, among other places, however recent discoveries on the properties of one of the active constituents found in this plant, the ovatoiloides, led scientists think about possible new lines of investigation for the use of this plant in other type of treatments.



*Anisomeles indica*

***Anogeissus latifolia* (DC) Wall.ex Bedd.**

This species is globally distributed in Pakistan, India, Nepal and Sri Lanka. Within India, it has been recorded in the forests of sub-Himalayan tract and Siwalik hills and throughout the hills ascending to 1200 m. Useful in diabetes, piles anemia, digestive, improves taste. Skin diseases: Bark is made into a paste and applied on affected parts (as required) (ch.ci.11). Ear inflammation: Oil prepared with the bark is used as an ear drop in case of ear inflammation (3-5 drops).



*Anogeissus latifolia*

***Argemone mexicana***

*Argemone mexicana* – a source for bio diesel, is used in Ayurveda to treat non healing wounds, constipation, Malaria, chronic fever etc. It is also used in Virechana Panchakarma treatment.



*Argemone mexicana*

***Asparagus racemosus***

*Asparagus racemosus* (Shatavari) is recommended in Ayurvedic texts for the prevention and treatment of gastric ulcers, dyspepsia and as a galactagogue. *A. racemosus* has also been used by some Ayurvedic practitioners for nervous disorders (Goyal and Singh 2003) [13].



*Asparagus racemosus*

***Azadirachta indica***

Various parts of the neem tree have been used as traditional Ayurvedic medicine in India. Neem oil and the bark and leaf extracts have been therapeutically used as folk medicine to control leprosy, intestinal helminthiasis, respiratory disorders, and constipation and also as a general health promoter. Its use for the treatment of rheumatism, chronic syphilitic sores and indolent ulcer has also been evident. Neem oil is used to control various skin infections. Bark, leaf, root, flower and fruit together cure blood morbidity, biliary afflictions, itching, skin ulcers, burning sensations and pthysis.



*Azadirachta indica*

***Bacopa monnieri***

Bacopa is a medicinal herb used in Ayurveda, where it is also known as "Brahmi," after Brahmā, the creator God of the Hindu pantheon. Bacopa has been used in traditional Ayurvedic treatment for epilepsy and asthma. It is also used in Ayurveda for ulcers, tumors, ascites, enlarged spleen, inflammations, leprosy, anemia, and gastroenteritis.



*Bacopa monnieri*

***Balanites aegyptica***

The *Balanites aegyptiaca* tree reaches 10 m (33 ft) in height with a generally narrow form. The branches have long, straight green spines arranged in spirals. The dark green compound leaves grow out of the base of the spines and are made up of two leaflets which are variable in size and shape. The fluted trunk has grayish-brown, ragged bark with yellow-green patches where it is shed. Seed is used as expectorant, antibacterial, and antifungal. Fruit is used in whooping cough, also in leucoderma and other skin diseases. Bark is used as spasmolytic (Khare, 2007) [19].



***Balanites aegyptica***

***Boerhaavia diffusa***

*Boerhaavia diffusa* is an herb found in Ayurveda and other traditional medicines. Historically, *Boerhaavia diffusa* has been used for its anti-diabetic and diuretic properties. In different areas of the world, *Boerhaavia diffusa* has also been used for pain relief, anti-inflammation, and treating indigestion. *Boerhaavia diffusa* is a tropical crawling root plant, with bioactive compounds in both the leaves and roots.



***Boerhaavia diffusa***

***Bombax ceiba***

*Bombax ceiba* grows to an average of 20 metre, with old trees up to 60 metre in wet tropical regions. The trunk and limb bear numerous conical spines particularly when young, but get eroded when older. The leaves are palmate with about 6 leaflets radiating from a central point, an average of 7~10 centimetre wide, 13~15 centimetre in length. The leaf's long flexible petiole is up to 20 cm long. Among traditional healers of Chhattisgarh, the Semal tree as medicinal plant holds a reputed position. It's one to two years old roots are known as Semal Musli. Like other Musli viz. Safed Musli, Kali Musli etc. Semal musli is also used very frequently by the healers. There is good demand of Semal Musli in national and international drug markets.



***Bombax ceiba***

***Butea monosperma***

The parts of the herb *Butea monosperma* that are used for medicinal purposes are its flowers, its leaves the gum obtained from the plant, its seeds and the oil that can be extracted from the flowers as well as the seeds. The flowers of the tree are rich in glucosides, butin, neteroside and butrin whereas the seeds are a rich source of moodooga oil or kino-tree oil which is a fixed oil and is yellow colour. This oil has various medicinal properties. The gum obtained from the tree is rich in gallic acid and tannic acid and is referred to as Bengal kino gum or simply Butea gum. The leaves of the *Butea monosperma* are used as ingredients of tonics and aphrodisiacs and are also helpful in arresting bleeding or secretion.



***Butea monosperma***

***Calotropis gigantea***

*Calotropis gigantea* is known as Aak in Sanskrit. It is widely used for many Ayurvedic treatments, both externally (ksharasutra) and internally. It is a very common herb seen widely throughout India. It is called as Madar in English. Often, its another variety *Calotropis procera* is also used in the same name. The latex of Madar plant is used in Vamana (vomiting therapy) and Virechana (purgation therapy). It is capable of inducing vomiting and purgation



***Calotropis gigantean***

***Chenopodium album L***

It tends to grow upright at first, reaching heights of 10–150 cm (rarely to 3 m), but typically becomes recumbent after flowering (due to the weight of the foliage and seeds) unless supported by other plants. The leaves are alternate and can be varied in appearance. The first leaves, near the base of the plant, are toothed and roughly diamond-shaped, 3–7 cm long and 3–6 cm broad. The leaves of *Chenopodium album* known as bathua sag in Hindi, pigweed in English and are distributed throughout world. About 21 species occur in India (Kirtikar and Basu, 1965) [20], particularly in Western Rajasthan, Kulu valley and Shimla (Deenanath *et al.*, 2009) [8]. This plant is a polymorphous, mealy white, erect herb, up to 3.5m in height, and found wild in altitude of 4,700 metres. It is reputed to be a medicinal plant in scientific and folkloric literature and its medicinal values are well documented. It has been found to have antipruritic, antinociceptic (Dai *et al.*, 2002) [7], sperm immobilizing activity (Shrabanti *et al.*, 2007) [25]. Medicinally, this plant has been used to treat various symptoms attributable to nutritional deficiencies.

*Chenopodium album L****Citrus aurantifolia***

Lime (*Citrus aurantifolia*) plants, known as a natural remedy for cough illness is herbaceous plant which has many branches and twigs. These plants have started to fruit at the age of 2 years. Old lemon taste sour. Lemon trees will thrive if planted at an altitude of 200 metres to 1300 metres above sea level and gets direct sunlight. In addition to natural cure the disease cough, also used such as tonsillitis, dysentery, malaria, constipation, shortness of breath, flu, and fever.

*Citrus aurantifolia****Commiphora wightii***

It is a shrub or small tree, reaching a maximum height of 4 m (13 ft), with thin papery bark. The branches are thorny. The leaves are simple or trifoliate, the leaflets ovate, 1–5 cm (0.39–1.97 inch) long, 0.5–2.5 cm (0.20–0.98 inch) broad, and irregularly toothed. It is gynodioecious, with some plants

bearing bisexual and male flowers, and others with female flowers. The extract of gum guggul, called guggulipid, guggulipid, or guglipid, has been used in Unani and Ayurvedic medicine, for nearly 3,000 years in India. One chemical ingredient in the extract is the steroid guggulsterone (Murray *et al.*, 2012) [21], which acts as an antagonist of the farnesoid X receptor, once believed to result in decreased cholesterol synthesis in the liver.

*Commiphora wightii****Cyperus rotundus***

*Cyperus rotundus* is a perennial plant, that may reach a height of up to 140 cm (55 inches). The names "nut grass" and "nut sedge" – shared with the related species *Cyperus esculentus* – are derived from its tubers, that somewhat resemble nuts, although botanically they have nothing to do with nuts. The plant is mentioned in the ancient Indian ayurvedic medicine Charaka Samhita (ca. 100 AD). Modern ayurvedic medicine uses the plant, known as musta or musta moola churna, for treating fevers, digestive system disorders, dysmenorrhea and other maladies.

*Cyperus rotundus****Datura innoxia***

*Datura innoxia* is a 1-2 metres tall annual, although it can grow up to 3 metres in height in the tropics, and lives as a perennial there. *D. innoxia* has hairy leaves with serrated margins and white, funnel-shaped flowers which bloom at night, giving off a wonderful scent. The fruits are pendulous and covered with many short thorns. The seeds are brown to orange in color (Ratsch 1998) [23]. In Mexico, toloache is used as a remedy for many disorders and symptoms, particularly fevers. The Apache use the juice of the flowers and roots to disinfect wounds. Dew drops that have collected in the flowers are used as an eye wash (Ratsch 1998) [23].



*Datura innoxia*

***Eclipta prostrata***

In the Ayurvedic system, *Eclipta prostrata*, as with all other herbs, is classified according to its qualities, taste, physiological effects, etc. Ayurveda states that it is: Taste – Katu (Pungent), Tikta (Bitter) Quality – Rooksha (Dry), Laghu (light to digest) Energy - Ushna (Hot) Post Digestive Effect - Pungent, i.e. undergoes a pungent taste conversion after digestion. According to Ayurveda, these qualities characterize the medicinal effects of *Eclipta Alba* on the body, and are expressed in Ayurvedic terms as balancing for Kapha, i.e. balancing for the moist and unctuous tissues and anabolic systems of the body such as fats and fluids, and balancing for Vata, i.e. the nervous system and catabolic functions.



*Eclipta prostrata*

***Euphorbia hirta***

*E. hirta* is distributed throughout the hotter parts of India and Australia, often found in waste places along the roadsides.[Sood *et. al.*, 2005] <sup>[29]</sup> *E. hirta* is used in the treatment of gastrointestinal disorders (diarrhea, dysentery, intestinal parasitosis, etc.), bronchial and respiratory diseases (asthma, bronchitis, hay fever, etc.), and in conjunctivitis. Hypotensive and tonic properties are also reported in *E. hirta*. The aqueous extract exhibits anxiolytic, analgesic, antipyretic, and anti-inflammatory activities. The stem sap is used in the treatment of eyelid styes and a leaf poultice is used on swelling and boils.



*Euphorbia hirta*

***Hemidesmus indicus***

*Hemidesmus indicus* is a perennial, fast-growing thin creeper vine that sends tendrils out at every node to cling to the surrounding vegetation for stability and support. In Ayurveda system of medicine, It is used to treat stomach problems, cure rashes, ease the mind, quell the symptoms of syphilis, induce trance states and deep meditation, and to clarify and prepare the mind for the dream world (Pole, 2006) <sup>[22]</sup>.



*Hemidesmus indicus*

***Solanum virginianum L.***

A very prickly, diffuse herb, somewhat woody at the base; stem somewhat zigzag. Prickles compressed, straight, yellow, often exceeding 1.3 cm long. Leaves 5-10 cm long, ovate or elliptic, sinuate or subpinnatifid, obtuse or subacute, armed on the midrib and nerves with long yellow sharp prickles. Flowers in extra axillary few-flowered cymes; corolla purple, 2 cm long. Berry 1.3-2 cm diam., yellow or white with green veins, surrounded by the enlarged calyx. Roots are diuretic and expectorant; employed in cough, asthma, chest pain and catarrhal fever. Fruit juice is useful in sore throat and rheumatism. Stem, flowers and fruits are carminative. Paste of the leaves is applied on painful joints to relieve pains. Seeds are given as an expectorant in asthma and cough. Decoction of the plant is useful in gonorrhoea. The plant also possesses cardioactive and antipyretic activities. Crude plant extract caused hypotension which has been attributed to release of histamine by some constituents.



*Solanum virginianum L.*

***Tinospora cordifolia***

A large, glabrous deciduous climbing shrub. The stems are rather succulent with long filiform fleshy aerial roots form the branches. The bark is gray brown and watery. The leaves are membranous and cordate. The flowers are small and greenish yellow. This herb is found throughout tropical asia ascending to a height of 300 mts. Giloy or Amrita carries anti-inflammatory and antipyretic properties. This herb has been used in Ayurvedic rasayanas since centuries which is very helpful in building up the immune system and the body's



confrontation against definite infecting organisms. In a scientific study conducted using human WBC (white blood corpuscles), the Ayurvedic herb helps in increasing the killing ability of macrophages, the resistant cells those are accountable for fighting foreign materials as well as microorganisms.



*Tinospora cordifolia*

### *Tribulus terrestris*

*Tribulus* is a ground-hugging thorn plant that bears fruit possessing sharp spines. It has been used for many centuries as a medicinal herb in Chinese and Indian Ayurvedic medicine, and for perhaps as long in Europe as well. In the Chinese tradition, *Tribulus* has been of value for such problems as skin irritation, insufficient milk production, itchy eyes, and urinary-tract and reproductive-tract problems in both men and women (Bensky and Gamble, 1986) [5]. In

India, it has been valued as an aphrodisiac and for its benefits on the urinary tract (Kapoor, 1990) [17]. It is also thought of as a tonic, and in one study, as part of an Ayurvedic preparation, *Tribulus* was used to treat 50 patients complaining of lethargy, fatigue, and lack of interest in day-to-day activities. The result was an overall improvement of 45% in these symptoms.



*Tribulus terrestris*

### Conclusion

The ravines of Chambal region are well known as the “Behead- The dynasty of dacoits”. This region have very diversified flora, which can be used as a medicine or as the additional income source for local livelihood. This is very good alternate for rural poor’s to generate the employment through collection of medicines and conserve them for future generation.

**Table 2:** Plants of medicinal use in Chambal ravines of Morena district of Madhya Pradesh

S. No.	Botanical Name	Family	Local Name
1	<i>Abrus precatorius</i>	Fabaceae	Ratti, or Gomchi
2	<i>Abutilon indicum</i>	Malvaceae	Kanghi
3	<i>Abutilon pannosum</i>	Malvaceae	
4	<i>Achyranthes aspera</i>	Amaranthaceae	Chir chita
5	<i>Acacia nilotica</i> (L.) Willd ex Del.	Mimosaceae	Babul
6	<i>Adhatoda zeylanica</i>	Acanthaceae	Adulsa
7	<i>Aegle marmelos</i>	Rutaceae	Bel
8	<i>Alhagi maurorum</i>	Fabaceae	Javaso
9	<i>Amaranthus viridis</i>	Amaranthaceae	Chaulai
10	<i>Ammannia baccifera</i>	Lythraceae	Dadmari
11	<i>Ampelocissus latifolia</i>	Vitaceae	Panibel
12	<i>Anisomeles indica</i>	Lamiaceae	
13	<i>Anogeissus latifolia</i> (DC)Wall.ex Bedd.	Combretaceae	Dhawada
14	<i>Argemone mexicana</i>	Papaveraceae	Pili kateri
15	<i>Asparagus racemosus</i>	Liliaceae	Shatawar
16	<i>Azadirachta indica</i>	Meliaceae	Neem
17	<i>Bacopa monnieri</i>	Scrophulariaceae	Brahmi
18	<i>Balanites aegyptica</i>	Balanitaceae	Hingot
19	<i>Barleria prionitis</i>	Acanthaceae	Piyabans
20	<i>Bauhinia racemosa</i>	Caesalpiniaceae	Astha
21	<i>Boerhaavia diffusa</i>	Nyctaginaceae	Patherchata
22	<i>Bombax ceiba</i>	Bombacaceae	Semal
23	<i>Butea monosperma</i>	Fabaceae	Palash
24	<i>Calotropis gigantea</i>	Asclepiadaceae	Madar
25	<i>Cayratia trifolia</i>	Vitaceae	Tipani
26	<i>Capparis zeylanica</i> L.	Capparidaceae	Asaria
27	<i>Chenopodium album</i> L.	Chenopodiaceae	Bathua
28	<i>Chenopodium murale</i> L.	Chenopodiaceae	kharbathua
29	<i>Cissampelos pareira</i>	Menispermaceae	Pahadbel /or Path ki bel
30	<i>Citrus aurantifolia</i>	Rutaceae	Nimbu
31	<i>Cocculus hirsutus</i>	Menispermaceae	Jamti ki bel
32	<i>Commiphora wightii</i>	Burseraceae	Guggul
33	<i>Convolvulus prastratus</i>	Convolvulaceae	Shankhbooti
34	<i>Crataeva religiosa</i>	Capparaceae	Varuna
35	<i>Crotalaria juncea</i> L.	Fabaceae	Sun

36	<i>Crinum latifolium</i> L.	Amarllidaceae	Sukhdarshan
37	<i>Cryptolepis buchanani</i>	Asclepiadaceae	Karanta,Nagbel
38	<i>Cynodon dactylon</i>	Poaceae	Dub ghash
39	<i>Cyperus rotundus</i>	Cyperaceae	Nagarmotha
40	<i>Cyperus umbellata</i>	Cyperaceae	Khus
41	<i>Datura innoxia</i>	Solanaceae	Datura
42	<i>Delphinium ajasis</i>	Ranunculaceae	Larkspur
43	<i>Echinops echinatus</i>	Asteraceae	Untkatera
44	<i>Eclipta prostrata</i>	Asteraceae	Bhringraj
45	<i>Euphorbia hirta</i>	Euphorbiaceae	Dudhi
46	<i>Euphorbia thymifolia</i>	Euphorbiaceae	Dudhi
47	<i>Ficus glomerata</i> Roxb.	Moraceae	Gooler
48	<i>Heliotropium ellipticum</i>	Boraginaceae	Hathisunda
49	<i>Hemidesmus indicus</i>	Asclepiadaceae	Anantmul
50	<i>Holoptelea integrifolia</i>	Ulmaceae	Chirol
51	<i>Lepidagathis cristata</i>	Acanthaceae	Serbetna
52	<i>Lepidagathis hamiltoniana</i>	Acanthaceae	Chekna Golchappa,
53	<i>Martynia annua</i>	Martyniaceae	Bichhu
54	<i>Moringa oleifera</i>	Moringaceae	Sehjana
55	<i>Mucuna pruriens</i>	Fabaceae	Kewanch
56	<i>Occimum gratissimum</i>	Lamiaceae	Nagad basuri
57	<i>Pergularia daemia</i>	Asclepiadaceae	Sadowani
58	<i>Peristrophe paniculata</i>	Acanthaceae	Atrilal
59	<i>Phyllanthus emblica</i>	Euphorbiaceae	Awala
60	<i>Pongamia pinnata</i>	Fabaceae	Karanj
61	<i>Punica granatum</i>	Punicaceae	Anar
62	<i>Ricinus communis</i>	Euphorbiaceae	Arand
63	<i>Saccharum spontaneum</i>	poaceae	Kans
64	<i>Salvadora oleoides</i>	Salvadoraceae	Pilu
65	<i>Solanum virginianum</i> L.	Solanaceae	Bhatkataiya
66	<i>Sphaeranthus indicus</i>	Asteraceae	Gorakhmundi
67	<i>Tephrosia tinctoria</i>	Fabaceae	Dhamasa
68	<i>Tephrosia purpuria</i> (L.) Pers.	Fabaceae	Sarpokha
69	<i>Terminalia arjuna</i>	Combretaceae	Arjun
70	<i>Tinospora cordifolia</i>	Menispermaceae	Giloy
71	<i>Tribulus terrestris</i>	Zygophyllaceae	Gokhru
72	<i>Vetiveria zizanioides</i>	Poaceae	Khus
73	<i>Wattakaka volubilis</i>	Asclepiadaceae	Nakchikani
74	<i>Withania somnifera</i>	Solanaceae	Asagandh
75	<i>Xanthium indicum</i>	Asteraceae	Gokharu
76	<i>Ziziphus mauritiana</i>	Rhamnaceae	Ber

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