



STUDY OF ETHNO BOTANICAL INFORMATION OF MEDICINAL PLANTS USED BY THE KOKANA TRIBAL OF NASHIK DISTRICT, MAHARASHTRA, INDIA

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ABSTRACT In the present study information on various medicinal plants in the respect of occurrence, distribution, taxonomy and uses have been carried out in Kalwan Tahsil of Nashik District. Study was carried out during July, 2012 to October, 2013 by arranging several visits after regular intervals in the study area. In this study **53 important Ethno medicinal plants (belonging to 34 families) were studied out of that 12 species were found most and commonly used as a medicinal plants.** All the species were preserved and documented. Medicinal plants uses and methods of administration were noted down with the help of vaidus, hakims, local healers and practitioners. The tribes like Bhills, Katkari, Kokana, Thakur, Warli and Mahadeo Koli are living in the remote places were also helped to generate the information of local medicinal plants.

KEYWORDS : Ethno-botany, medicinal plants,

Introduction-

More than 7500 wild plant species used in the Indian herbal medicine systems. The use of herbal plants as a trial and effect of the plants as a medicine is being passed on from generation to generation. This knowledge is orally transmitted and the use of medicinal plants has not recorded. It is need to make the documentation of these medicinal plants for future generations. Hence an effort is being made to documentation of medicinal plants and their qualities.

Martial and methods-

The medicinal plants collected during the survey were properly identified with help of floras preserved in the form of herbarium. The recorded data compared with Study of Dwivedi (2004), Jain (1991), Verma et.al. (1995), Maheshwari et. al. (1986) etc. During the study total number of 18 tribes were observed (Ref. Gazetteer of India, Maharashtra State, Rev. February, 5th, 2016) were visited which are spread in the Tahasils like Peth, Surgana, Igatpuri, Trambakeshwar, Kalwan, Dindori, Deola and Niphad,

Methodology-

Several visits to tribal areas of Nashik region during the period from different localities in different seasons to understand the medicinal of various plants use to cure different diseases traditionally. The present information has been collected from old and experienced men from various Adivashi communities like Bhills, Katkari, Kokana, Thakur, Warli and Mahadeo Koli etc.

During the first year 2008-2009, the survey of tribal communities in Nashik district was completed. The cultural activities (rituals), Occupation, education, evil spirit knowledge of use of medicinal plants, crops were observed. Their population, culture, traditions and hygienic problems were also observed.

During the year 2009-2010, the medicinal men were searched and collected the information to understand the use of medicinal plants from them. The collected medicinal plants were preserved with the herbarium.

Demography-



Results and Discussion-

The traditional systems of medicine together with Homeopathy and folklore medicine continue to play significant role the health care system of population. The tribal population of India mostly dependent

on use medicinal plants therapy for the health care needs. The present work has attracted the potential use of several medicinal plants to cure many serious diseases of mankind and animals. The practice Aurvedic medicines recorded in Sanskrit by legendary figures of Indian medicine, like Charka, Sushruta, Nagarjuna, Atreya and Jeevaka. India has 15% of medicinal plants out 20,000 medicinal plants of the world. Wellknown medicinal plants of India and there uses have been recorded in the important Indian medicinal plants' literatures (Kirtikar and Basu, 1935, Chopra et. al 1956, Jain, 1991 & 1993, Chaudhari et. al. 1989, Trivedi, 2002, Binu et. al 1992, Rastogi and Mehrotra, 1993). Total 62 medicinal plants used in Homeopathy and Ayurvedic preparations (Kulkarni D. K. and Upadhye A. S; 2007). 80 Angiosperm species belonging to 39 Families Phenology, useful parts and local names employed against various medicinal applications (Patil D. A. 2007)

Ethenomedicinal study was conducted to document the indigenous medicinal plant knowledge used by traditional healers in South-Western Ethopia (Haile Yineger, Delenasaw Yewhalaw and Demel Teketay, 2008) only few medicinal plants have attracted the interest of scientist to investigate for remedy for tumors. A plant promotes host resistance against infection and destabilizing body equilibrium and conditioning body tissues. (Madhuri Sharma, pandey Govind 2009).

173 herbal plants with respective to local plant name, family use, plant parts used in different ailments by tribal local community of Jhunjhunu District of Rajasthan (Sharma O. P. et.al. 2007). Tribal people have lack scientific knowledge use the medicinal plants because they suffers from nutritional and health problems due to malnutrition, lack of educational facility and job opportunities (Sonowal C. J. 2010). 26 number of antipyretic plant species belonging to 20 families and 23 genera have been recorded (Manbendra Dutta Chaudhari, Meenakshi Bawari, L. Shyamali Singha 2010)

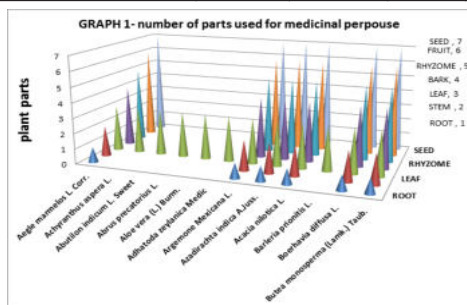
The study of Conservation of Ethno-medicinal plants of Mangrove forest in North Sumatra with conservation of total 48 medicinal plants, belonging to 23 families were studied by Onrizal and Mashhor Mansor, 2010.

The present article mentions total 12 species of medicinal plants as in table no. 1.

TABLE NO.1 List of plants collected from the study region during 2008-2010

Sr. No.	Botanical Name	Common Name	Family	Habit	Part used
1.	<i>Aegle marmelos</i> L. Corr.	Bael	Rutaceae	Tree	All parts
2.	<i>Achyranthus aspera</i> L.	Aghada	Amaranthaceae	Herb	Leaves
3.	<i>Abutilon indicum</i> L. Sweet	Mudra	Malvaceae	Shrub	Leaves
4.	<i>Abrus precatorius</i> L.	Gunj	Fabaceae	Climber	Leaves
5.	<i>Aloe vera</i> (L.) Burm.	Korphad	Liliaceae	Herb	Leaves
6.	<i>Adhatoda zeylanica</i> Medic	Adulsa	Acanthaceae	Shrub	Leaves

7.	<i>Argemone Mexicana</i> L.	Bilayat	Papaveraceae	Herb	All parts
8.	<i>Azadirachta indica</i> A.Juss.	Kadu neem	Meliaceae	Tree	All parts
9.	<i>Acacia nilotica</i> L.	Babhul	Mimosaceae	Tree	All parts
10.	<i>Barleria prionitis</i> L.	Kante koiranti	Acanthaceae	Herb	Leaves
11.	<i>Boerhavia diffusa</i> L.	Punarnava	Nyctaginaceae	Herb	All parts
12.	<i>Butea monosperma</i> (Lamk.) Taub.	Palas	Fabaceae	Tree	All parts



Description and Uses of Plants:

1. *Aegle marmelos* (L.) Corr. -Bael (Family -Rutaceae) Morphological description: Habitat - Terrestrial; Habit - Tall tree with long stout thorns; Root- Tap and branched; Stem - Woody, solid, green grey, often thorny; Bark fragrant; Leaf- Leaves compound, usually 3-foliolate rarely 2 or 5 foliate; petioles 2-3 cm; leaflets lanceolate to elliptic-lanceolate, 4-5 x 2-3 cm, crenate, acuminate glabrous, lateral leaflets sub-sessile, terminal one long petiolated, leaves contain fragrant glands; Inflorescence- Flowers are borne in cymes; Flowers- Bisexual, greenish white, scented, in axillary, short panicles, pedicel short, pubescent, hypogynous; Calyx- Sepals 5, united to form short 4-5 lobed, lobes rounded, ciliolate; Corolla- Petals 5 distinct greenish white, oblong, 10-12 mm long; Androecium-Stamens numerous; polyadelphous, filament distinct or subfascicled; Gynoecium-Carpels 3-5, syncarpous; Fruit-Drupe globose, 5-10 cm in diam, rind yellowish green; Pulp sweet, orange coloured; Seed-Many endospermic; Flowering and Fruiting -April to September.

Uses:

1. Fruits are eaten with sugar help to cure phlegm
2. Eating of bael fruit highly recommended for diarrhea and dysentery.
3. 3.5 gm of leaf powder in this add one tea spoon of honey and take twice daily, is early in the morning and evening to get relief from asthma
4. Deseeded fruit extract mixed with mustard oil and used for massage for swelling and joints
5. Drink of Bael fruit with sugar (jaggery) and cardamom powder helps to excessive thirst and staff bleeding from gums.
6. Extract juice from 100 leaves and add 10 gm of Pepper and take it in Morning and Evening which cures jaundice.
7. 2 to 3 spoonful extract with honey prevent omitting
8. The roots are useful in Diarrhoea and dysentery
9. Also initiated conditions of Vata, seminal weakness, omitting, swelling etc.
10. The leaves are useful in deafness, inflammation, diabetes and Asthmatic complaints.
11. Ripe fruits are good for heat, brain and Dyspepsia

2. *Achyranthus aspera* L. Aghada Family- Amaranthaceae

Morphological description- Habitat- Terrestrial/ Habit- Herb, 30 to 90 cm tall Root- tap root system, Stem- Herbaceous, aerial erect quadrangular branched, solid hairy and green; leaf- leaves are simple, opposite, decussate, ovate or broadly elliptic, 2.5 - 6.2 X 3.5 cm acute, rounded or sub cordate at base, entire, finally appressed pubescent or both sides, petioles 0.5-2 cm long; coriaceous; inflorescence- spike; flower sessile, complete pentamerous, numerous on long pubescent rachis of elongating terminal spike, bracts, falling away with fruiting perianth; tepals 5, polytepalous; androecium- stamens 10 in two whorls of 5 each, outer whorl reduced imbricate staminode (pseudo), monoadelphous, ditheous, versatile; Gynoecium Bicarpellary, syncarpous, superior, ovule single, style short, stigma bifid; Fruit- Utricle, oblong cylindrical, truncate at apex, thinly membranous, enclosed in hard ended perianth, seeds subcylindric truncate at apex, brown; Flowering and Fruiting- Aug. to Jan.

Uses:

1. Few drops of leaf juice dropped in nose cures headache
2. The roots are astringent, their paste applied to clear opacity of cornea and wounds as a haemostatic
3. It is reported to be useful in cancer.
4. A decoction of roots is used for stomach troubles and an aqueous extract for stones in the bladder.
5. Whole plant decoction taken two table spoon three times a day cures beriberi.
6. Whole plant decoction boiled with water and taken twice a day giving relief from pneumonia.
7. Whole plant infusion in water taken thrice a day on bronchial infection.
8. Whole plant ash with honey taken twice a day cures Cough
9. Whole plant Juice taken thrice a day on Toothache
10. Two teaspoonful powdered root taken once at night gives relief from Stomachic and digestive
11. Extraction of roots taken at night improves menstrual disorders
12. Roots Powder taken twice a day to stops bleeding in delivery
13. Fresh leaves mixed with jaggery or black peppery and garlic and made pills taken twice a day on Antiperiodic
14. Raw seeds taken twice a day, cures bleeding piles
15. Flowers Grounded into paste used as external on Snakes and reptiles bites
16. Decoction of powdered leaves taken twice day early stages of diarrhoea and dysentery
17. Leaves Juice mixed with opium taken twice with water cures Gonorrhoea

3. *Abutilon indicum* (L.) Sweet. -Mudra (Family -Malvaceae)-

Morphological description: Habitat- Terrestrial; Habit- A wild herb; Root- Tap root system; Stem- Herbaceous, erect, branched, solid and green; Leaf- Simple leaves, broadly ovate, 3.5-11x3-10 cm, cordate, serrate, with stellate hairs, petioles 3-7cm long; Inflorescence- Solitary axillary cyme; Flower- Yellow flowers without epicalyx, 1.5-3.5cm across, peduncle 3-5 cm long, hypogynous, complete; Calyx- Sepals 5, gamosepalous, green 4-6 mm long; Corolla- Petals 5, polypetalous, slightly connate at base, adnate to stomatal tube, orange - yellow, obovate 1-3 cm long, toothed at apex; Androecium- Stamens indefinite, monoadelphous forming a tube around the style, extrose, monotheous; Gynoecium- Carpels 15-20, multicarpellary, syncarpous, superior, multilocular with one ovule in each locule; Fruit- Capsule; Seeds- Reniform, 3mm long, brown, with a tuft of hairs, endospermic; Flowering and fruiting-August to March,

Uses:

1. The leaves are crushed to extract juice which taken daily for easy child birth
2. The whole plant is uprooted, dried and is powdered. In ancient days, maidens were made to consume a spoonful of this powder with a spoonful of honey, once in a day, for 6 months until the day of marriage, for safe and quick pregnancy.
3. The flowers are used to increase semen in men
4. Leaves are used in boils, ulcers and as a foementation to painful part of the
5. Leaves decoction used in toothache and tender gums.
6. Leaf powder given internally for inflammation of bladder.
7. Root prescribed in fever, chest affection and urethritis.
8. Bark used as astringent and diuretic
9. Seeds used in piles, expectorant, gonorrhoea

4. *Abrus precatorius* L. -Gunj (Family-Fabaceae)

Morphological description: Habitat - Terrestrial; Habit- A perennial twiner; Root - Tap root system; Stem- Stems numerous, scarcely woody, slender, glabrous, green; Leaf-2-4 in. long; petioles 1/4-1/2 inches long, compound, stipules long, pubescent, deciduous; leaflet 10-20 pairs, 1/3-5/8X1/6-1/5 inches. opposite, thinly membranous, ligulate- oblong, slightly hairy beneath, base rounded; Inflorescence- Recemose; Flower- White or pink, crowded in many flowered racemes shorter than the leaves; pedicel short; Calyx - glabrous or silky, teeth very short; Corolla - Pink or white with pink tinge; Fruit-Pods, oblong, truncate with sharp deflexed beak, silky, pubescent; Seeds usually bright scarlet with black spot, sometimes white with a black spot; Flowering and Fruiting Sept. to Oct.

Uses:

1. The leaves are crushed and applied on the affected part for curing scabies.
2. Seeds paste applied on belly in stomach disorder in the children
3. The plant is used to treat scratches and sores and wounds caused by

dogs, cats and mice.

4. The leaves are used for their anti-suppurative properties. They are ground with lime and applied on acne sores, boils and abscesses
5. Powdered seeds used as oral contraceptives.
6. Paste of roots is administered to cure abdominal pains and tumors.
7. The paste of root with fresh rhizome of Haldi' (*Curcuma longa* L.) is applied on wounds.
8. Grinded roots of *Abrusprecatorius* are taken with pure clarified butter thrice a day for week to cure cough.
9. For graying of hair, a paste of leaves and seeds is made and juice is extracted. This juice is applied on hair as oil once a day one hour before taking bath.
10. Dry seeds of *Abrusprecatorius* are powdered and taken one teaspoonful once a day for two days to cure worm infection
11. Necklaces and other ornaments are made from the seeds and worn by both children and adults
12. The seeds are considered abortifacient
13. A tea is made from the leaves which used to treat fevers, coughs and colds.
14. The seeds of *Abrusprecatorius* are very similar in weight. In Older times Indians used to measure using these seeds and the measure was called as Ratti this was used to generally measure gold and 1 Tola (11.6 Grams) = 12 Masha; 1 Masha = 8 Ratti
15. *Abrus* herb causes no toxic effects when taken in moderate amounts. If the amounts are exceeded, it can lead to vomiting, diarrhea and nausea.
16. The juice of green leaves is taken for purifying the blood.
17. The seeds reduced to a paste are recommended to be applied locally in stiffness of shoulder joint and other nervous diseases.
18. Seeds are often used criminally for killing cattle.
19. Leaves steeped in warm mustard oil are used to relieve local pain in swelling.
20. Powdered leaves are used in white leprosy along with plumbago root.

5. *Aloe vera* (L.) Burm.-Korpad (Family - Liliaceae.)

Morphological description: Habitat- Terrestrial; Habit- Scapigerous herbs; Root- Fibrous slender, Stem-Underground rhizome; Leaf- Leaves fleshy, large, spinous, succulent, dense, aggregate, 20-60x5-10cm broad and sheathing at base, with distant horny prickles along margins; sheath 1-3 cm long membranous, scapes 60-120 cm tall, simple, branches ascending; Inflorescence- Racemose; Flower- Pedicels 5-10 mm long, Perianth-Orange red, 2.5-3.5 cm long, divided half way from tip filaments shortly exerted; Capsules ovoid-ellipsoid 1.5-2 cm long, brown, obtusely trigonous, seeds many trigonous, black, winged; Flowering and Fruiting -Sept. to Jan.

Uses:

1. Fresh juice taken orally in fever and eye diseases.
2. Aloe Vera fresh juice is applied to heal the burn marks.
3. Its juice cures the skin diseases.
4. Fresh juice applied on hairs before the bathing, it removes dandruff from the hair and maintain the health of hair
5. The fresh juice of its leaf blades can be applied directly to the ulcers, burns, sunburns, and fungal infection.
6. Aloe Vera fresh leaf juice is taken internally for the stomach disorders.
7. The leaves of Aloe Vera are used for the treatment of facial edema or swelling and remove scratches of face
8. *Aloe vera* used to heal skin wounds heals burn, healing rashes reducing acne.
9. *Aloe vera* Plants juice is also helpful in healing insect bites.
10. Aloe gels applied on dry skins to give them glowing effect.
11. After regular intervals use of fresh juice reduces wrinkles and you are looking young
12. Tender leaves mixed with powder of cumin seed and sugar candy is excellent remedy in dysentery with bloody stool.
13. Leaf juice mixed with opium and applied to forehead relieves headache.
14. It is also useful in menstrual suppressions and piles.
15. A pulp with burnt alum is valuable application in ophthalmia.

6. *Adhatoda zeylanica* Medic. -Adulsa (Family-Acanthaceae)

Morphological description: Habitat - Terrestrial; Habit - Large evergreen shrub, 1-2 m tall; Root - Tap root system; Stem - Erect woody cylindrical, branched, rough and pale green; Leaf - Leaves simple, opposite, elliptic lanceolate, 10-20x3-8 cm, tapering at the base, entire, acuminate, petioles short, coriaceous; Inflorescence Racemose spike; Flower in short dense axillary, pedunculate spike; 2-8 cm long, whitish green pentamerous, bracts elliptic, bracteoles

oblong, lanceolate, hypogynous; Calyx - Sepals 5, gamosepalous, oblong lanceolate, acute; Corolla - White with pinkish tinge in the throat, 5 petals, gamopetalous, tube 8-12 mm long, narrow at base; limb 2 lipped; Androecium - Stamen 2 epipetalous, anther lobes are situated at unequal height; Gynoecium - Bicarpellarysyncarpus, bilocular, one ovule in each locule, stigma capitate; Fruit - Capsules, clavate, shortly and bluntly pointed; Seeds orbicular, oblong, 5-6 mm long, glabrous; Flowering and Fruiting - Aug. to Dec.

Uses:

1. A decoction of the leaves can be used as an herbal treatment for cough and other symptoms of colds.
2. *Adhatodavasica* has been used to control both internal and external bleeding such as peptic ulcers, piles and bleeding gums.
3. The poultice of leaves is also helpful in relieving rheumatic symptoms when applied to joints.
4. The leaves may be dried and smoked to relieve asthma.
5. It was traditionally used by midwives at the time of delivery because of its uterotonic activity. Due to its anti-implantation activity, *adhatoda* should not be used while pregnant.
6. Both leaves and flowers are used medicinally. Juice of leaves given along with honey, for treating cough and asthma. It contains drug vasacine, which Brancho-dialator
7. The leaves, flowers, fruits and roots are extensively used for treating cold, cough, whooping-cough and chronic bronchitis and asthma as sedative- expectorant, antispasmodic and as anthelmintic.
8. *Adhatotavasaka* poultice from the leaves is applied for healing wounds, rheumatic pains and edema, whereas a warm decoction the leaves is useful in treating scabies and other skin diseases.
9. The decoction of *vasaka* root and bark in doses of 30 grams twice or thrice a day for 3 for destroying intestinal parasites, or the juice from the leaves in a doses of a teaspoon thrice a day for 3 days can performs the same.
10. About 30 ml of the juice is taken thrice a day with honey, acting a s relieving agent for irritable cough due to its soothing action on the nerve and by liquefying the sputum, which makes expectoration easier.
11. The leaf extract has been used for treatment of bronchitis and asthma for many centuries.

7. *Argemone mexicana* L. -Bilayati (Family-Papaveraceae)

Morphological description: Habitat- Terrestrial; Habit- An annual, spiny erect herb with yellow latex; Root- Tap root system; Stem- Herbaceous, erect, bluish green with yellow latex, cylindrical, branched; Leaf- Simple, sessile, alternate, margins much dissected and spinous oblanceolate, 12-20x2-4cm; Inflorescence-Solitary axillary; Flowers-Trimerous, actinomorphic, ebracteate, complete, hypogynous, yellow colour; Calyx- Sepals 3, spiny, polysepalous, caducous, green, horned at the top; Corolla- Petals 6 in two series of 3 each, bright golden yellow, polypetalous; Androecium - Stamens indefinite polyandrous, dithecous, arranged in several alternating whorls extrose; Gynoecium- Tetra to hexacarpellary, syncarpous, superior, unilocular, parietal placentation, style absent ovules many; Fruit- Spiny capsule; Seeds- Black to brown; Flowering and Fruiting - Throughout year.

Uses:

1. Seed oil, popularly known as Satyanashi oil is used as an illuminant, lubricant, in soapmaking, and for protection from termites
2. Both the seed oil and leaf infusions are drunk to relieve cough. Root and leaf 2. decoctions are applied to the skin to cure oedema, inflammation, muscle pain, ulcers, yaws, to remove warts
3. A root decoction is used as a mouthwash and eye bath to treat infections. Leaf sap is used as eardrops to cure ear inflammation.
4. The latex is useful in dropsy, Jaundice, skin diseases, leprosy and malarial fever.
5. The roots are useful in guinea worm infection.
6. The seeds are useful in vitiated conditions of cough, asthma, leprosy etc.
7. The leaves are also useful in cough, wound, ulcers and skin diseases.
8. Latex is applied externally to treat Eczema.
9. Seeds grounded to a fine paste together with equal quantity of turmeric powder and the paste thus obtained is applied externally to treat Eczema, 'Odosmari
10. Leaf sap is used as eardrops to cure ear inflammation

8. *Azadirachta indica* A. Juss. -Kaduneem (Family - Meliaceae)

Morphological description: Habitat- Terrestrial; Habit - Large tree reaching 20 m tall; Root- Tap root system; Stem - Hard, woody, erect, bark furrowed, brown in colour; Leaf- Leaves compound, unipinnate, 20-40 cm long, imparipinnate, leaflet 9-13 sub opposite, very oblique,

lanceolate, 2-7 x 1-3 cm, serrate, glabrous, petiolules very short; Inflorescence- Axillary panicle; Flowers - Mildly fragrant, flowers shorter than the leaves; bracts minute, caducous; Calyx - Sepals 4-5, polysepalous, sepals almost distinct round-ovate, minute; Corolla - Petals 4-5, polypetalous; white obovate-oblong, 6-8 mm long, ciliate; Androecium- Stamen 10, monoadelphous, stamens united to form staminal tube, staminal tube shorter than petals, toothed at apex, anthers 10 opposite to the teeth; Gynoecium - Carpels 2-5, syncarpous, ovary superior, 2-5 loculed, one to more ovules in each locule, stigma 3. lobed; Fruit-Drupes, ellipsoid, 1-2 cm long, yellow, one seed. Flowering and Fruiting-Jan. to May.

Uses:

1. Leaves decoction is useful in intestinal worm and tuberculosis
2. In bathing water added with neem leaves removes body pain and feeling fresh
3. Tender branches used like brush which removes bad odour from mouth and strengthening the tooth
4. Stem powder mixed with milk and applied on pimples
5. Traditionally neem products have been used against a wide variety of diseases which include heat-rash, boils, wounds, jaundice, leprosy, skin disorders, stomach ulcers, chicken pox, etc.
6. Neem leaves are reported to be beneficial for eye disorders and insect poisons
7. Traditionally, slender neem branches were chewed in order to clean ones teeth in India one often sees youngsters in the streets chewing on neem twigs
8. Bark also useful in cough, bronchitis, diabetes, malarial fever, wounds and burning sensation.
9. Wilted tender branches burn in the night, smoke of it acts as mosquito repellent.
10. Tender branches added in the grains during storage to avoid insects and worms.

9. *Acacia nilotica* (L.) Del. -Babul (Family-Mimosaceae)

Morphological description: Habitat - Terrestrial; Habit - Trees, 3-8 m tall; Root - Tap root system; Stem - Erect, woody, bark- dark brown to black, longitudinally fissured, branchlets slender, pubescent; Leaf - Compound, bipinnate, leaves 5-8 cm long, gland at the base, petioles 2-5 cm long, stipular spines variable, 0.5-6 cm long, straight, sharp, ash white, pinnae 4-8 pairs, 2-4 cm long, leaflets subsessile, 10- 25 pairs, linear-oblong, 3-6x1-2 mm, subobtuse, glabrous; Inflorescence Cymose heads; Flowers- Flowers in globose heads, peduncles axillary, fragrant, small yellow; Calyx Sepals 4 or 5 minute, gamosepalous, campanulate; Corolla - 4 or 5 gamopetalous bright yellow, 3 mm long, lobes triangular acute; Androecium • Stamens indefinite, polyandrous, long filament, yellow; Gynoecium - Monocarpellary, ovary superior, unilocular, style long; Fruit Lomantaceous pod, stalked, 6-15 cm long, Seeds 6-10, discoid, 6-8 mm across, margined brown, polished; Flowering and Fruiting-June to Jan

Uses:

1. Diluted stem extract gargled for few days in morning for cleaning of mouth and strengthening the gums
2. Extract taken orally (one spoon) once a day which cure acidity and cough
3. Pods decoction beneficial in urinogenital diseases.
4. Tender branches used just like brush to clean tooth and strengthening the gum
5. Bark powder applied externally in ulcers
6. Bark decoction used as a gargle in toothache
7. Bark is employed in tanning Infusion of tender leaves used as an astringent and remedy for diarrhoea and dysentery.
8. Bark decoction used as a gargle in sore throat and toothache;
9. Gum, its demulcent properties are employed in various cough, diarrhoea and throat preparations.

10. *Barleria prionitis* L. Kate koranti (Family-Acanthaceae)

Morphological description: Habitat - Terrestrial; Habit - Much branched shrubs 0.5-1.5 m tall; Root Tap root system; Stem - Erect, branched, green, stem glabrous, sharp thorns often forming clusters; Leaf - Leaves simple, elliptic - oblong, 9-15 x 4-6 cm., tapering at base, entire, glabrous above, pubescent, petiole 2-20 mm long with 2-4 axillary sharp thorns; Inflorescence Spike; Flower - Solitary, Axillary or terminal short spike, bracts foliaceous, oblong-lanceolate, acute, bristle tipped, orange - yellow, scented; Calyx - Sepals 5, outer sepals unequal, oblong lanceolate, mucronate, inner ones narrower and shorter than the outer sepals, mucronate; Corolla - Petals 5, gamopetalous, orange yellow; tube broad, limb 2 - lipped, lobes oblong obovate, rounded at apex; Androecium Stamens 2 - perfect

with 2- staminode, included or slightly exerted; Fruit - capsules ovoid, beaked; Seeds 4, ovoid -orbicular, appressed hairy; Flowering and Fruiting Nov. to Jan. 67

Uses:

1. The dried bark is given in whooping cough and 2 tolas of juice of fresh bark with milk in anasarca; it acts as diphoretic and expectorant.
2. The native apply juice of leaves to their feet in rainy season to prevent cracking.
3. A tooth paste made of the astringent leaves and common salt is used to strengthen the gums and in toothache due to caries.
4. The plant useful in diseases of the skin and the blood itching, pruritis, inflammations (Ayurveda).
5. A mouthwash made from root tissue is used to relieve toothache and treat bleeding gums.
6. The leaves are used to promote healing of wounds and to relieve joint pains and toothache.
7. Because of its antiseptic properties, extracts of the plant are incorporated into herbal cosmetics and hair products to promote skin and scalp health
8. The leaves and the tender branches are used for treatment of tooth ache, strengthening of gums, whooping cough and premature ejaculation and cracking heel.
9. Leaves are chewed to relieve toothache.

11. *Boerhavia diffusa* L. -Punernava (Family-Nyctaginaceae)

Morphological description: Habitat - Terrestrial, Habit - Perennial herbs; Root tap root system, root large, fusiform; Stem-Herbaceous, many stems, prostrate or ascending, 30-100 cm long thickened at nodes; Leaf-Leaves simple in unequal pairs at each node, broadly ovate or sub orbicular, 2-4,5x1.5-3.5 cm, rounded or subcordate at base, obtuse or rounded at apex, glabrous, with minute scales beneath; petioles slender, often as long as the blades, Inflorescence-Cymose; Flowers- Sessile or nearly so, 4-10 together in small umbels arranged in axillary and terminal panicles; pink, bracteoles lanceolate, acute, minute, involucre leaves are reduced to teeth or scales; perianth 4-5 gamophyllous, tubular, petaloid; dark pink, funnel shaped glandular, hairy outside at base; Androecium-Stamens 2-3, slightly exerted; Gynoecium-One carpel, unilocular with single basal ovule, style long, simple; Fruit-Dry, anthocarp (achene surrounded by persistent base of perianth); Flowering and Fruiting-more or less throughout the year.

Uses:

1. Plant used in treatment of Jaundice.
2. Recently it has also been shown to be source of phytoecdysones.
3. It inhibits increased serum aminotransferase activity in arthritic animals and an increase in liver ATP phosphohydrolase activity.
4. A whole plant extract indicated hepatoprotective activity in CC14 induced hepatotoxicity in rats.
5. The extract is considered to be safe and potent antihepatotoxic.
6. Plant extract taken for 15 days cures jaundice.
7. These herbs have potential to rejuvenate the diseased human body.
8. The healers further informed that one can keep the fresh root piece inside the mouth with Pan (Betel Vine), as preventive. Without any delay in treatment of Jaundice.
9. Its use to hasten the process of delivery is also mentioned in previous articles.
10. Punarnava roots decoction is used in the treatment of insomnia.
11. It purifies the blood
12. In treatment of fevers, boil the Punarnava roots and Bel (Aegle marmelos) in cow milk and when one fourth quantity remains (of initial quantity), give it to the patients internally as treatment.
13. In case of stomatitis, the traditional healers prepare a paste by rubbing the fresh roots in cow milk and apply it externally.
14. In case of severe itching, it is applied with milk in form of paste.
15. The natives are aware that the regular use of this herb prevents the formation of renal calculi as well as flushes out the existing stones.
16. It helps to reduce productive cough and asthma

12. *Butea monosperma* (Lamk.) Taub. -Palas (Family-Fabaceae)

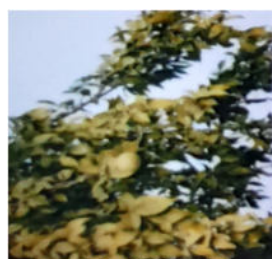
Morphological description: Habitat - Terrestrial; Habit - Deciduous tree, 12-15 m tall, Root- Tap root system; Stem - Erect, branches irregular, young parts tomentose, bark brownish or ash coloured, cracked; Leaf - Leaves compound, 3 foliate, petioles 8-15 cm long, swollen at base; stipules deciduous, leaflet ovate - rhomboid 8-15x5-8 cm, oblique glabrous above, petioles 5-6 mm long, stipules subulate; Inflorescence - Racemose; Flower - Large dark red, rigid racemes 15-30 cm long, 2-3 together on nodes, bract and bracteoles lanceolate, small deciduous; Calyx 10-15 mm long, dark olive green, densely velvety outside, with hairs, teeth short; Corolla - Salmon or orange

coloured, 3-6 cm long, clothed outside with silvery hairs; Fruit-Pods stalked, oblong, 1 seeded, silvery tomentose; Flowering and Fruiting - March to June.

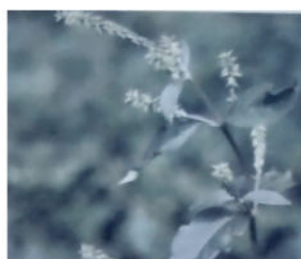
Uses:

1. Stem bark paste with water applied on swelling part.
2. Seed oil removes urinary stone
3. Fruits extract with milk removes intestinal worms of children
4. Heated roots are beaten and used in rope preparation for agriculture purpose.
5. Gum is used in the treatment of diarrhoea.
6. Bark useful in vitiated conditions of pitta, kapha, diarrhoea, dysentery, bone fractures, rectal diseases, hepatopathy, tumours, hydrocele and diabetes.
7. The leaves are useful on pimples, boils, colic, worm infestations, arthralgia and haemorrhoids.
8. Flowers are useful in burning sensations and Flowers are very efficacious in birth control.
9. Seeds are useful in skin diseases, ring worm, ophthalmopathy, diabetes etc.
10. Ash of tender branches is useful in abdominal disorders such as flatulense, colic etc.
11. Gum useful in diarrhoea, leprosy, general debility, hyperacidity and fever.
12. A paste of one seed is given with jaggary for curing abdominal pain

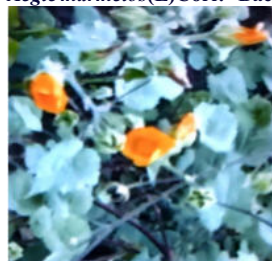
PLATE 1



Aegle marmelos(L.)Corr.--Bael



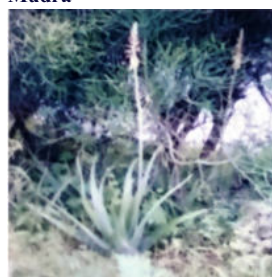
Achyranthus aspera L. Aghada



Atilon indicum (L.) Sweet--
Mudra



Abrus precatorius L.--Gunj

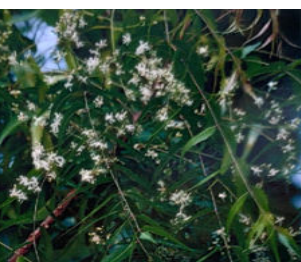


Aloe vera (L.)Burn.--Korpad

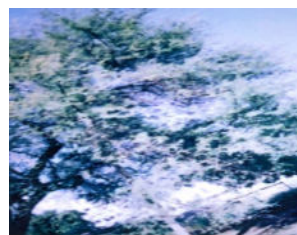


Adhatoda zeylanica Medic.--
Adulsa

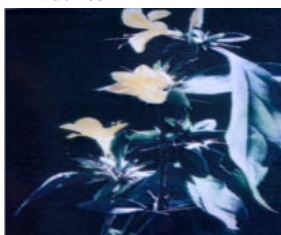
PLATE-2



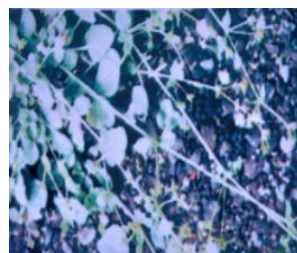
Argemone mexicana L. -Bilayati



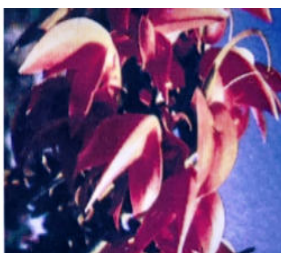
Azadirachta indica A. Juss. -Kaduneem



Acacia nilotica (L.) Del. -Babul



Barleria prionitis L. Kate koranti



Boerhavia diffusa L. -Punernava

Butea monosperma (Lamk.)
Taub.-Palas

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