1. Study of some ethno-veterinary medicinal plants of Ahmednagar district of Maharashtra, India
   ISSN: 2231 – 2587.

2. Plants in child care in Ahmednagar district, Maharashtra (India)
   Recent Research in Science and Technology 2012, 4(10): 11-15
   ISSN: 2076-5061.

3. Some useful weeds from Ahmednagar district, Maharashtra (India)

4. An Assessment of floristic diversity of Ahmednagar district Maharashtra (India)
   Bioinfolet 10(4A) : 1121-1127.

5. Some weeds used as medicine to urinary tract diseases in Ahmednagar district Maharashtra (India)
   Proceedings of national seminar on "new vistas in plant science and biotechnology
   NSNVPSB 2013 : 90-92.

6. Plants Used in Treatment of Jaundice by Folklore of Ahmednagar district, Maharashtra, India
   Science Research Reporter, 3(2):216-222, Oct. 2013 ISSN: 2249-2321 (Print)
Study of some ethno-veterinary medicinal plants of Ahmednagar district of Maharashtra, India

J. R. Mulay*, Vijigiri Dinesh and P. P. Sharma

*New Arts, Commerce & Science College, Ahmednagar, India.
P G Department of Botany, Deogiri College, Aurangabad, India.

Abstract
Since the time immemorial humans are depending on natural resources for fulfilling their basic needs like food, medicine, shelter, etc. Ancient people have given equal importance to health care along with the food and shelter and in doing their own system of medicine. Science livestock was essential component of their livelihood, then started treating cattle by using natural resources. The present ethnoveterinary explorations conducted in forest areas of Ahmednagar provide the information about traditional plant uses of 37 plants species belonging to 24 angiospermic families. Of these, major families are Amaranthaceae, Liliaceae, and Solanaceae (03 of each). Majority of preparation are from leaves, underground parts, stem, fruit, seed, whole plant and latex. Following data includes botanical name of species, vernacular name, family plant, part used, method of preparation of medicine and details about its applications.

Keywords: Veterinary, Medicinal plants, Ahmednagar, Maharashtra.

INTRODUCTION

The Ahmednagar district is located between 18°02’ and 19°09’ north latitude and 73°09’ and 75°05’ east longitude and is situated partly in the upper Godavari river basin and partly in the Bhima river basin. It is largest district of Maharashtra occupying more or less the central position in the state and with an area of 17,413 sq. km. The district is divided into 14 revenue taluka’s.

The vegetation of district is quite varied and interesting. The area is also rich in a number of economically important species. The district is studied with number of tribal (adivasi) pockets. Major tribes found in these are Thakar, Bihl, Mahadeokoli, Paradihi, etc. Where people invariably depend on forest products for their livelihood. ‘Kalsubai’ the highest peak in western ghats of Maharashtra fall under district jurisdiction.

Forests

The total area under forest cover is 1,432.64 sq km. The vegetation in general is mixed deciduous type. It is further classified in to 3 main types Dry-tropical forest, Moist-tropical forest and Western-subtropical hill forest. District is a place of attraction to many Ayurvedic drug dealers and ‘Vaidus’ of the neighboring areas. The mountainous regions of Akola taluka are rich in medicinal plant resources. Pradhan and Singh (1999) reported 23 important medicinal plants, 12 endemic plants and 11 rare plants in Ahmednagar district.

Received: April 10, 2012; Revised: May 12, 2012; Accepted: June 25, 2012.

*Corresponding Author

P. P. Sharma
P G Department of Botany, Deogiri College, Aurangabad, India.
Tel: +91-7588929388
Email: dr_ppsharma@yahoo.co.uk

FOREST DWELLERS

As per 2001 census the total population of the district is 40,88,000. The tribal population is 3,03,000 (07%). Total 12 tribes reported from the district among them Bihl, Mahadeokoli, Pardhi, Thakar are the major tribal groups in the area. Besides these tribal groups, several other communities are residing as forest dwellers.

MATERIAL AND METHODS

The present work included survey and documentation of Ethno-veterinary useful plants. The methodology used for procuring information through interviews of forest dwellers with knowledge of plants for medicinal, purposes. Interviews consisted of open and semi-structured questions and the information collected was verified during different occasions with same informant and in different localities with other informers on different occasions. Plants identified in the laboratory using keys for botanical determination given in different floras such as, Singh et al, (2000 &2001) Cooke (1958), Pradhan and Singh (1999), etc. Some earlier studies on ethnoveterinary practices are Jain (1999); Kumar & Sharma (1996); Reddy & Sudarshana (1987); Sebastian (1984); Sabastain & Bhandari (1984); Sensarma (1991); Sharma & Singh (2001).

Enumeration of plants include botanical name and family in parenthesis which is followed by local name and uses with detailed formulation, mode of use and doses.

ENUMERATION

Abras precatorius L. (Fabaceae)
Local name : Chirmi, Ratti
Use: Lake of estrus: Crushed seeds soaked in 200-250 ml of water for overnight, next morning water is given as a single dose.

Acacia nilotica (L.) Del. ssp. indica (Bth.) Brennan (Mimosaceae)
Local name : Wedi babul.
Use: Immunization: Handfull immature seeds crushed and given with water for seven days.

*Achyranthes aspera* L. (Amaranthaceae)
Local name: Aghada
Use: Cramps: Handfull crushed roots given with fodder twice a day for two days.

*Allium sativum* L. (Liliaceae)
Local name: Lasun
Use: Fever and cough: 2-3 bulbs crushed and given along with fodder twice a day for seven days.
Postnatal swelling & injuries: Garlic boiled in coconut oil and oil is applied over accessible delivery passage.

*Amaranthus tricolor* L. (Amaranthaceae)
Local name: Tandulja
Use: To improve lactation: Aerial parts of plants given with fodder for seven days.

*Annona squamosa* L. (Annonaceae)
Local name: Sitaphal
Use: Wounds: Paste of fresh leaves applied.

*Asparagus racemosus* Willd. var. *javanicus* (Kunth.) Baker (Liliaceae)
Local name: Satavari
Use: To improve lactation: Handful roots crushed and given to cattle for seven days.

*Boerhaavia erecta* L. (Nyctaginaceae)
Local name: Santhi
Use: Urinary problems: Aerial parts given with fodder twice a day for five days.

*Calotropis giganta* (L.) R.Br. (Asclepiadaceae)
Local name: Rui/Baddavan
Use: Diarrhoea: Crushed stem bark is soaked in water for overnight and given in the morning for 2-3 days.

*Cassia occidentalis* L. (Caesalpiniaceae)
Local name: Kasod
Use: Bone fracture: Leaves crushed with egg albumen and goat milk, paste applied over fractured area and bandaged by using bamboo strips & jute thread and kept it for 10-15 days.

*Cassia tora* L. (Caesalpiniaceae)
Local name: Pumar
Use: To improve lactation: Handful seeds crushed and are soaked in water for overnight and given in the morning for fifteen days.

*Cissus quadrangularis* L.
Local Name: Harjora
Use: Bone fracture: 50gm stem paste with rhizome paste of Ada (Zingiber officinale Rosc.) about 25 gm and lime about 20 gm are mixed together. The paste is applied on broken part of the body as plaster. The plaster is kept as such for 12-15 day as curative of ‘Harbhanga’ – the bone fracture.

*Citrus maxima* L. (Rutaceae)
Local name: Idlimbu
Use: Emetic: Fruits given with fodder when iron objects are eaten by the cattle with fodder. This causes vomiting and helps in taking out the object eaten.

*Cocculus hirsutus* (L.) Theob. (Menispermaceae)
Local name: Jaljamuni
Use: To improve lactation: Whole plant crushed and given orally for seven days.

*Commenlina benghalensis* L. (Commelinaceae)
Local name: Kena
Use: Eye problems: 4 -5 drops of leaf juice instilled in eyes three times a day.

*Datura stramonium* L. (Solanaceae)
Local name: Dhotra
Use: Diarrhoea: Unripe fruit given with fodder once a day for three days.

*Eclipta prostrata* (L.) (Asteraceae)
Local name: Bhringaraj
Use: Swellings: Paste of fresh leaves applied twice a day till cure.

*Ficus hispida* L. (Moraceae)
Local Name: Dumur
Use: Easy and safe delivery: Fresh green leaves along fresh leaves of Bamboo given to cattle for quick expulsion of foetus.

*Ficus racemosa* L. (Moraceae)
Local name: Gular
Use: To improve lactation: Fresh fruits given for seven days.

*Gloriosa superba* L. (Liliaceae)
Local name: Oundha phool
Use: Skin diseases: Rhizome paste applied for three days.

*Jatropha curcas* L.
Local Name: Bharanda
Use: Wound inside nose: The latex collected from twigs and applied externally till cure.

*Justicia adhatoda* L. (Acanthaceae)
Local name – Adulsa
Use: Swelling: Half liter decoction of stem bark given orally in the night for two to three days..

*Lawsonia inermis* L. (Lythraceae)
Local name: Mehndi
Use: Joint pain: Paste of leaves wormed and applied over joints twice a day for 7 – 8 days.
Throat swelling: Leaf paste warmed and applied from out sideover throat of cattle.

*Luffa cylindrica* (L.) Roem. (Cucurbitaceae)
Local name: Ghia-turai
Use: Dyspepsia: Dry fruits mesocarps burnt and kept in such a place so cattle can inhaled the smoke.
**RESULT AND DISCUSSION**

The present studies have explored interesting data on the plants used in traditional veterinary practices, which provides scope for further pharmacognostic and pharmacological studies to understand the potential in these plant based crude drugs.

During the study 37 plant species of 24 families used for veterinary medicinal purposes have been documented. Majority of the species used are from families Amaranthaceae, Liliaceae, and Solanaceae (03 each) and majority of preparations from Leaves (12), Underground parts (10), Stem bark (07), Fruits (04), Seeds (3), Whole plant (02) and Latex (01) etc.

**ACKNOWLEDGEMENTS**

Mrs. J. R. Mulay is thankful to University Grant Commission, New Delhi for granting facilities and F. I. P. Authors are thankful to Principal of the College and Secretary, M.S.P. Mandal, Aurangabad for support and facilities.

**REFERENCES**


Plants in child care in Ahmednagar district, Maharashtra (India)

J. R. Mulay and P. P. Sharma*

New Arts, Commerce & Science College, Ahmednagar, India.
*P G Department of Botany, Deogiri College, Aurangabad, India.

Abstract
The present ethno-botanical explorations conducted in forest areas of Ahmednagar district resulted in the information about traditional plant uses of 47 plants species belonging to 30 Angiospermic families. Of these, maximum species belongs to Euphorbiaceae with 5 species, 3 species to Fabaceae and Solanaceae each. Information gathered from district indicates that the tribals, and other village people of this region possess good knowledge of herbal drugs for treating diseases of their children, but their continuous and progressive exposure to modernization may result in extinction of the such rich heritage of knowledge in the course of time. Diseases / ailments found prevalent in the area are skin diseases, respiratory diseases, tooth ache, fever, liver disorders and wounds.

Keywords: Traditional plant uses, children health, Ahmednagar, Maharashtra.

INTRODUCTION

The district with its glorious floristic heritage possesses multiple ethnic cultures which have their own way of treating diseases with plant medicine. People reside in villages still depend on the plants and use them to prevent and cure the diseases of their children. The communities, thus, maintain a traditional health care system based on surrounding local natural resources. It has been transmitted from generation to generation through verbal means and mostly restricted among the aged people of the communities or elderly women of the families, vaidyas, and herbal practitioners.

In remote areas within the district there are not enough modern medical facilities and practically health care system of the area mostly depends on traditional system of medicine treated by herbs which they find and think most effective and convenient to use in child health care system.

The present paper deals with 47 angiosperm plant species used in various diseases/ailments of children. The target age group has been considered from newborn baby to children up to 12 years.

During the last few decades several workers have made notable contributions on useful plants of the area (Chaudhari et al, 1976; Mudgal et al., 1977; Mukherjee et al., 1978; Naskar and Guha Bakshi, 1986; Naskar, 1983; Pal et al., 1998; Trivedi et al., 1993, Gayake & Sharma) but meager attention has been given to children health care.

METHODOLOGY

The present work included survey and documentation of

1. Abrus precatorius L. (Fabaceae). Gunj
Use: Cough: Leaf juice about 5 ml is taken twice a day for 3 days to cure cough.

2. Acacia nilotica (L.) Delile ssp. indica (Bth.) Brenan (Mimosaceae). Bubul.
Uses:
   a) Dysentery: Gum 5 ml is dissolved in 1 cup of water and is given in the morning on empty stomach for 3 days to cure dysentery.
   b) Diarrhea: About 2 gm Leaf bud paste mixed with a pinch of dried rhizome powder of Zingiber officinale Rosc. Is given with water, twice a day for 2-3 days.
   c) Swelling and painful mumps: Leaf paste is applied on affected area to reduce the swelling and pain.

Uses:
- a) Fits in Children: 5 ml decoction of tender aerial shoots with a pinch of common salt is given with water twice a day for 2-3 days.
- b) Cough and other respiratory diseases: 1 gm powder of dries whole plant is given with honey twice a day for 4-5 days.
- c) Cough and congestion of respiratory track: 10 ml plant juice mixed with 5ml ghee, warmed over fire and massaged gently over chest and neck to get relief.
- d) Ear ache: One drop of plant juice is pored in the ear.


Uses:
- a) Cough and Cold: Whole plant juice 5 ml is used twice a day for 2-3 days to cure cough and cold.
- b) Swelling and pain due to insect bite: Root paste is applied on affected area of insect bite.


Uses:
- a) Diarrhea: Rhizome paste (1-2 gm) with water is given thrice a day for 2-3 days.
- b) Chicken pox: 5 gm rhizome paste with a little water is applied twice a day up to 7 days to treat boils.
- c) Mouth Ulcer: A pinch of rhizome paste mixed with and applied inside mouth, twice a day for 1-2 days or till cure.
- d) Cough, cold and fever: 5 ml decoction of rhizome is given twice a day till cure.


Uses:
- a) Fever: Juice extracted from 2-3 fresh leaves with a pinch of salt is given on empty stomach for 2-3 days to cure fever.
- b) Dysentery and Diarrhea: Powder of dried green fruit pulp with water is given once day for 2-3 days to treat dysentery, diarrhea.
- c) Constipation: Ripen fruit pulp mixed with sugar and juice is prepared, given once at night for 7-8 days.


Uses:
- a) Dysentery: Plant extract 5 ml with a pinch of common salt is given twice a day for two days
- b) Stomach pain: Leaf juice 5 ml is given in stomach pain.


Uses:
- a) Scabies and sores: Leaf paste is applied till cure.


Use: Constipation: Boiled tender twigs with a pinch of salt is used to care.


Uses:
- a) Plant juice 5 ml is used once a day for 3 days for the treatment of whooping cough.
- b) Latex of stem is mixed with equal quantity of coconut oil. It is applied once a day for 2-3 days for treatment of scabies.
- c) Stem juice 1-2 drops is applied on eye to cure ophthalmic infections.


Uses:
- a) Fever: 1 teaspoonful powder of dried leafest in a glass of water, mixed applied over body once daily to cure fever in infants.
- b) Scabies: Stem bark ash is mixed with coconut oil and applied.

12. **Bacopa monnieri** (L.) Penn (Scrophulariaceae). *Nira-Brahmi*

Uses:
- a) Brain tonic: 5-10ml plant juice with ½ cup of cow’s milk given once a day for 20-25 days.
- b) Cough and chest congestion: 10 ml juice of whole plant mixed with 25ml mustard oil and 5 gm of black ‘mung’ flour (*phaseolus mungo* L. seeds) warmed and gently massaged over chest to get relief from pain due to congestion.
- c) Cold: Plant juice of 5 ml with ½ cup lukewarm cow’s milk, given twice a day for 2-3 days to cure cold.


Uses:
- a) Cough: 10ml leaf extract with and few ml of honey is given twice a day 5-6 days to cure cough.
- b) Boils: Leaf paste is applied to treat boils.

15. **Carica Papaya** L. (Carocaceae). *Papai*

Use: Jaundice and Liver problems: 3-5 drops latex of green fruit mixed with sugar given once a day in the morning for 20-25 days to reduce the enlargement of liver.

16. **Cassia fistula** L. (Caesalpiniaceae). *Bahawa.*

Uses:
- a) Tonsillitis: Paste of ripe fruit is applied on throat once in a
day to cure tonsillitis.

b) Pus in Ear: Fruit pulp is applied to cure ear pus.

   Uses:
   a) Dysentery and Diarrhea: 5 ml leaf juice given twice a day for 2-3 days.
   b) Brain Tonic: Leaf juice 5 ml or powder of leaves 1-2 gm with ½ cup cow’s milk given for 20-25 days to school going children.
   c) Skin diseases and rashes in infants: Leaf paste is applied.

   Uses:
   a) Intestinal worms: 5-10 ml juice of tender twigs with few ml of honey is given empty stomach in the morning for 3-4 days to kill and expel worms.
   b) Cough and childhood asthma: Root paste about 5 gm is given with water, once a day for 12-15 days.

   Uses:
   a) Intestinal worms: 5-10 ml juice of tender twigs with 2-3 drops of honey given empty stomach in the morning for 3-4 days to kill intestinal worms.
   b) Colds: Leaf paste applied to stop bleeding in fresh cuts.

   Use: Leaf paste is applied on forehead to treat watering and burning sensation in eyes.

   Uses:
   a) Boils: Leaf paste applied to treat boils.
   b) Fever: Leaf juice applied over body to reduce body temperature.

   Use: Fever: Leaf extract applied on forehead during fever to reduce temperature.

   Uses:
   a) Cuts and injuries: Watery latex of the tender twig is put on fresh cut/injury to stop bleeding and pain.
   b) Rickets: Leaf paste with common salt applied over the body in rickets.

   Uses:
   a) Blood dysentery: Leaf juice and lime water (1:1) about 5ml, given 2-3 times a day for 1-2 days in blood dysentery.
   b) Liver disorders: About 0.5 ml juice of fresh rhizome with a pinch of sugar is given once a day for 20-25 days in treating liver troubles.
   c) Scabies: Rhizome and leaf of Azadirachta indica A. taken in equal proportion, crushed to make paste and applied over scabies.

   Uses: Mumps: 1-2 fresh leaves, about 5 gm of lime and is rubbed by two hands until greenish froth comes out. This froth is applied 2-3 times on inflamed ear glands for 1-2 days.

   Uses:
   a) Cold: 3-5 ml leaf juice with few drops of honey is given in cold, once a day for 2-3 days.
   b) Jaundice: 3-5 ml leaf juice with ½ cup of water is given once a day for 10-15 days to cure jaundice.
   c) Cuts: Leaf juice is applied to stop bleeding in fresh cuts.

   Use: Loss of appetite in babies: A pinch of root paste is given with water, twice a day in case newborn babies avoid feeding. (And to improve lactation: 5-6 gm of root paste given with water to mother, twice a day for 1-2 days).

   Uses:
   a) Diarrhea: Root extract about 5 ml is given twice a day for 2-3 days to treat diarrhea.
   b) Dysentery: Root decoction 5-10ml given twice for two days.

   Use: Diarrhea & Dysentery: Stem bark decoction about 2-3 ml is given twice a day for 2-3 days to treat dysentery.

   Uses:
   a) Cough and Cold: 5 ml leaf juice given twice a day in cold and cough.
   b) Fever: 10 ml leaf decoction with few drops of honey is given twice a day for 2-3 days in fever.

   Use: Blood Dysentery: 3-4 drops latex is given along with sugar for 2-3 days to treat blood dysentery.

   Uses:
   a) Dyspepsia: 5 ml leaf juice with 1-2 ml of lime water given
once a day in morning for 2-3 days to treat dyspepsia.

b) Jaundice: 5-7 ml leaf juice given once a day for 12-14 days.


Use: Blood dysentery: 2-3 ml root juice with 10-20 ml of water given twice a day for 2-3 days to treat blood dysentery.

34. **Nyctanthes arbor-tristis** L. (Oleaceae). *Parijatak.*

Uses:

a) Whooping cough: 3-5 ml leaf juice with a pinch of common salt given twice a day for 3-4 days in whooping cough.

b) Fever: 5 ml leaf juice with few drops honey, given twice a day for 2-3 days to treat fever.


Uses:

a) Blood dysentery: 5 ml juice of aerial shoots with a pinch of common salt is given twice a day for 2-3 days to treat blood dysentery.

b) Insect bite: Paste of aerial shoots is applied topically over insect bite.

c) Boils: Paste of aerial shoots applied on boil to promote suppuration.

d) Cold and chest congestion: Juice of aerial shoots mixed with equal volume of mustard oil, warmed and gently massaged over chest to treat congestion due to cold.


Uses:

a) Cough and cold: 5 ml of leaf juice with 2-3 drops of honey is given to children once a day for 2-3 days to treat cough & cold.

b) Cough: Leaf decoction 5 ml given twice a day as an expectorant.

c) Ear ache: Fresh leaf juice used as drops to treat earache.

37. **Phyllanthus fraternus** Webster (Euphorbiaceae). *Bhui awala.*

Uses:

a) Dysentery: Plant juice 7-10 ml is given once a day for 2-3 days.

b) Jaundice: 5 ml plant juice with water given for 14-15 days in jaundice.

38. **Psidium guajava** L. (Myrtaceae). *Peru.*

Use: Diarrhea: Few tender leaves boiled in 100 ml water till the water quantity becomes half, 10 ml decoction is given twice a day to treat diarrhea.


Uses:

a) Boils: Fresh young leaf is used as poultice on boils.

b) Constipation: 4-5 drops of seed oil with ½ cup of cow’s milk is given to children, once in morning for 2 days.

40. **Solanum nigrum** L. (Solanaceae). *Kangoni.*

Uses:

a) Irruptions: Leaf juice is mixed with juice of fresh rhizome of *Curcuma longa* and applied over the body to cure prickly heat irritation due to allergy.

b) About 2-3 ml juice of ripe fruit (or powder of dried root ½ gm with honey) is given in convalescence of children.

41. **Syzygium cumini** (L.) Skeels (Myrtaceae). *Jambul.*

Uses:

a) Blood dysentery: 5 ml of leaf juice with a pinch of common salt is given twice a day for 2-3 days to treat blood dysentery.

b) Bed wetting: 5-10 ml leaf juice with a few drops of ghee is given once in morning for 4-5 days to treat bed wetting.

42. **Trigonella foenum-graecum** L. (Fabaceae). *Methi.*

Uses:

a) Chicken pox: The seeds soaked in ½ glass of water for overnight. 10 ml of that water is given 2-3 time a day for 2-3 days till the eruption of pox is brought out completely.

b) Measles: Seeds soaked overnight in water and 10-20 ml of that water is given twice a day for a week.

43. **Tinospora cordifolia** (Wild.) Miers ex Hook. (Menispermaceae). *Gulvel.*

Uses:

a) Fever: Decoction of aerial shoots about 5 ml, given twice a day for 2-3 days to treat fever.

b) Sun stroke: Plant juice and rhizome paste of *Curuma longa* L. in proportion of 1:1 is applied over the body.

44. **Vitex negundo** L. (Verbenaceae). *Nirgudi.*

Uses:

a) Itching: Leaf juice is applied on body.

b) Bed wetting: 1 gm powder of dried leaves or 5 ml juice of freshly collected leaves with water is given once a day in afternoon for at least 7 days to treat bed wetting.

45. **Withania somnifera** (L.) Dunal (Solanaceae). *Aswagandha.*

Uses: Childhood Asthma: 5 gm root paste is boiled with 20 ml of mustard oil after straining, the oil is gently massaged over chest to reduce asthmatic troubles.

46. **Thespesia populnea** (L.) Soland. ex Correa. (Malvaceae). *Paraspimpal.*

Uses: Tonsils: Leaf paste is applied on inflamed glands.

47. **Zingiber officinale** Rosc. (Zingiberaceae). *Ale.*

Uses:
a) Cough: Rhizome decoction 10 ml is given as expectorant.

b) Cough and cold: Juice of rhizome about 2-4 ml with ½ cup of water and a pinch of common salt is given to treat cough and cold.

c) Jaundice: 5 gm dried ginger powder and of *Piper longum* L. pinch of the mixture is given with honey twice a day for 14-15 days to treat jaundice.

**DISCUSSION AND CONCLUSION**

The district Ahmednagar enjoys a rich heritage of ethnic as well as floristic diversity, having medicinal and agro industrial importance. The tribal population and the people of other ethnic communities use many plants for medicine, food, fodder, oil seed, beverage, material culture, etc. The tribal medicine men and vaidyas and the older women of the villages are repositories of indigenous knowledge about home remedies and their clinical parts, which have the efficacy, usefulness and are without side effects in local health care system. Due to rapid growth of industrialization depletion of soil due to poor agricultural practices, erosion of soil due to deforestation and poor water holding capacity of soil, etc. have adversely affected the region.

The prevailing pediatric diseases in Ahmednagar are diarrhea, dysentery, dyspepsia, fever, skin diseases like scabies, itching and ulcers, etc. besides these, some diseases are reported as specific to children.

Common diseases among the children are due to intestinal worms, anemia, bronchitis, caries of teeth, cough, cold, eruptions (like measles, chicken pox), mumps tonsillitis etc. The liver disorders are also very commonly occurring pediatric disease.

Diseases like chicken pox, measles, mumps, conjunctivitis etc. become epidemic or in sporadic forms. Indigestion, diarrhea, dysentery in rainy season and skin diseases, viz., itching, scabies, boils are of very common occurrence in summer season.

**ACKNOWLEDGEMENTS**

Mrs. J. R. Mulay is thankful to University Grant Commission, New Delhi for granting facilities and F. I. P. Authors are thankful to Principal of the College and Secretary, M.S.P. Mandal, Aurangabad for support and facilities.

**REFERENCES**


Some useful weeds from Ahemadnagar district, Maharashtra, India

J. R. Mulay and P. P. Sharma*

New Arts, Commerce & Science College, Ahmednagar, India.
*P G Department of Botany, Deogiri College, Aurangabad, India.

Abstract

Traditional knowledge has assumed great importance in enhancing our knowledge about the plants which are used by the people since time immemorial. During last few decades, sufficient research work on ethnobotany has been done in various parts of India by various workers. However, Ahmednagar district has not been given enough attention as far as ethnobotanical studies are concerned. Hence, to fill up the gap the present investigation has been undertaken. Total 30 weed species belong to 18 families are recorded, while common diseases/ailments for which most of the plants used are Joint pains (7 species), Warts and wound (5 species) Headache, Tonic and cough (4 species each), Jaundice (3).

Keywords: Useful, Weeds, Ahmednagar, Maharashtra.

INTRODUCTION

The simplest and most common definition of weed is “any plant growing where it is not wanted”. This statement contains one very important and central idea about weeds, which is that they are exclusively associated with man and his activities. Because there is no doubt about their importance to man and nearly everybody is familiar with most of weeds.

According to Anderson (1954), “history of weeds is the history of man”. The plants, which we call today as a weed, are persistent since time immemorial but during the ancient periods the prevailing forest conditions were not suitable for the growth of weedy species, and yet these plants were apparently present in certain places and were thus able to colonize as soon as artificially disturbed sites became available to them. There must always have been small local areas of disturbance due to natural causes such as rivers, but another likely possibility is that many plants of open habitats survived this period in the regions near sea shore or on higher mountain slopes where open conditions were maintained by the general physical environment. Under modern conditions weeds and plants with weedy characteristics are frequently the pioneers of secondary successions caused by man-made or natural disturbances of the environment, but in many cases this weedy phase is quite brief.

There is ample evidence that many weed species were also used for food by early man, though this practice is by no means confined to the past. Many of our present-day weeds thus have a long history in India, but a great many others were introduced from other parts of the world much later by successive groups of colonizers. The example of the weeds came from outside are Parthenium hysterophorus, Cassia spp., Echornia spp., etc.

Since man began to create disturbed environments on a large scale it is clear that enormous new possibilities have been opened up for weeds, and it is a striking fact that many weeds which are a serious problem in areas to which they have spread are relatively harmless in the places from which they were introduced.

It is worth re-emphasizing that some weedy plants were certainly selected by primitive man as crops. Amongst crops thought to be have been selected and evolved from weedy ancestors are potatoes, carrots, sunflowers, barley, oats and rye; the weedy grass Aegilops is known to be an ancestor of modern wheat varieties. Thus weeds can be important to man in many ways, not all of them disadvantageous. The present communication will give a information about the weed plants and some of their utilities for mankind from Ahmednagar district.

Study Area

The Ahmednagar district is located between 18°02’N lat., 19°09’ E North latitude and 73°05’ and., 75° 05’ East longitude and is situated partly in the upper Godavari river basin and partly in the Bhole river basin. It is largest district of Maharashtra occupying more or less the central position in the state and with an area of 17,413 sq. km. As regards the botanical explorations in Ahmednagar, several people have made notable contributions, such as Pradhan and Singh (1999), Santapau (1951), Santapau and Irani (1962), most of these works resulted in enrichment of the Herbaria except few publications, like Shirke (1978). Hooker et al (1872-1897), Cooke (1909-1917) have recorded plants from Ahmednagar district in their publications. However, extensive work for the flora of the Ahmednagar district has been done by Pradhan and Singh (1999). In spite such a extensive works present investigations indicates that the plant wealth of Ahmednagar city area has not been given enough emphasis and needs more attention.

People

In Ahmednagar district Thakars, Mahadevkoli, Bhills and Ramoshies are major tribal groups found, however, several other communities also reside in the vicinity of forests. Their huts are without windows and their major occupation is agriculture. Rice,
black sesame and ringer millet are some of the crops they cultivate.

MATERIALS AND METHODS

The present ethno botanical survey was done during 2010-2012 in different villages of Ahmednagar Old experience and tribal medicine men (Vaidya) were consulted to know about the use of various plants growing in their localities. Herbariums of the useful weeds were prepared and identification was done following standard literature (Singh et al, 2000 & 2001; Cooke, 1958; Pradhan and Singh, 1999). Herbarium specimens are deposited in the Botany Department Deogiri College, Aurangabad.

Enumeration of Plants

Following is the alphabetical list of plants with their scientific names, name of family and local name and distribution with the field voucher number, uses with details like plant parts used method of preparation of medicine, doses, etc.

   Distribution: Very common on wasteland, Shendi, near Bus stand, DCH-1756
   Use: Rheumatism and joint pain: Plant decoction is used as poultice in treating rheumatism and joint pain.

   Distribution: Very common weed along roadside, Aurangabad road near Sai Lawns, DCH-1612.
   Uses- Wounds: Plant paste applied externally for healing wound. Jaundice: Watery latex applied externally on eyes once a day for 5 days.

   Distribution: Very common in waste lands, Karanj, DCH-1675.
   Use- Root extract 20-30ml given to children during night to eradicate intestinal worms.

4. Boerhavia rapens L. var. diffusa (L.) Hook. (Nyctaginaceae) ’Punnava’.
   Distribution: Common weed along roadsides, BTR regiment, DCH-1734.
   Use- Kidney stone: 10 to 20 ml leaf decoction taken for 10-15 days in treating kidney stone and other urinary troubles.

   Distribution: Very common weed in and around villages and along roadsides, Burhanagar, DCH – 1758.
   Use- Headache: Flowers and leaves are kept on head and massage is given by warmed utensil to reduce headache.
   Cough: Flowers with honey and Semecarpus anacardium seed cotyledons, taken in proportion of 1:1:2 and made small 1 gm pills, taken orally twice a day until cure.

   Distribution: Very common weed in waste places around villages and along roadsides, DCH-1729.
   Use- Asthma and cough: Dried leaves smoked to cure asthma and cough.
   Cough: Dried leaves mixed with jagary are also given for treatment of cough.

   Distribution: Common throughout the district during rainy season, DCH – 1668.
   Uses: Arthritis: Leaves half fried in Sesamum orientale oil and applied externally over joints in treating arthritic pain.
   Edible: ‘Chutney’ is made by leaves.

   Distribution: Common throughout the district during rainy season, DCH – 1668.
   Use:
   Itch: Fresh leaf juice is applied for treating itch.
   Ringworm: Paste of roots with lemon juice applied externally over ringworm.

   Distribution: Common in Karangi ghat DCH – 1763.
   Use: Jaundice: Half glass juice of leaves taken orally once a day empty stomach for 5 days.

    Distribution: Common on moist places in forest undergrowth, Mula chari, DCH – 1807.
    Use: Arthritic pain: Paste of whole plant applied externally on joints.

    Distribution: Common amongst crops, Devgan, DCH –
    Use: Leaves used as vegetable for treating anemia.

12. Cocculus hirsutus L. (Menispermaceae), ‘Vasanvel, Jaljamni ‘.
    Distribution: common, Imampur ghat, DCH – 1727.
    Use: Spermatogenesis: Leaves consumed directly said to be effective in enhancing spermatogenesis.

    Distribution: Common parasite of hedges and other plants, DCH – 1777.
    Use- Arthritic pain: Paste of whole plant applied externally on joints.

    Distribution: Frequent in open places, Shendi, DCH – 1817.
    Use- Wounds: Root paste with, Ricinus communis roots, Brassica nigra seeds in equal proportion and small amount of salt applied externally on wounds until cure.

15. Datura metel L. (Solanaceae) ‘Kala Dhotra’.
    Distribution: Frequent in open places, Burhanagar, DCH – 1718.
    Use- Cough: Leaves smoked to cure asthma and whopping cough.
Wounds: The fruit roasted in warm ash, crushed and paste applied to treat wounds.
Pimples: Root paste applied externally.

Distribution: Frequent in moist places near water bodies, Kapurwadi talav, DCH – 1761.
Use: Jaundice: Leaves curry is eaten to purify blood and also used to treat jaundice.

Distribution: Frequent in moist and waste places, Mahalaxmi garden, DCH – 1618.
Use: Wounds: Crushed leaves are applied on wounds of cattle.

Distribution: Common in waste places, DCA- 1841.
Use- Warts: latex applied externally twice a day.

Distribution: Common along road side, Pandhaniripul, DCH – 1649.
Use: Tooth problems: Stem used as brush for tooth problems.

Distribution: Commonly occur nearby villages, Police headquarter Ahmadnagar, DCH – 1739.
Use- Cough: 50-60ml decoction of tender leaves with Zingiber officinale rhizome, and Piper nigrum seeds in equal proportion, taken orally daily thrice for three days.

Distribution: Common along road side, camp area, lakadipool, DCH – 1753.
Use: Swelling in cattle: Handful leaves add in 100ml Sesamum orientale oil and two eggs mixed and given orally 2 times only to cattle.

Use: Dysentery: Root extracts about 20-30 ml taken twice a day for two days.

Use: Fever and respiratory disorders: Roots with sugar and Cuminum cyminum seeds in 2:1:1 proportion crushed and mixture made in to pills of 2 gm each, two pills taken twice a day for 3 days.

Distribution: Frequent in open lands, Chandbibih mahal, DCH – 1747.
Use: Itch and ringworm: Leaf paste mixed with turmeric powder and applied to cure itch and ring worm twice a day until cure.

Distribution: Common weed along road side and waste land near civil hospital, DCH – 1626
Use: Jaundice: Whole plant paste taken 20-30 ml orally for treating jaundice.

Distribution: Common weed along road side and waste land & follow field Dahigoan, DCH – 1644.
Use: Urinary disorders: 5 gm powder of fruits with one tea cup of milk taken orally twice a day for 2 weeks to treat urinary problems.

Distribution: Common weed along road side and waste land near civil hospital, DCH – 1626
Use: Wounds: Leaf paste used in wounds and cuts.

Distribution: Frequent in open places near villages, DCH-1902
Use: Cough: 10-20ml decoction of tuber is taken orally once early in the morning to cure cough.

Distribution: Common weed along road side and waste land Karanji ghat. DCH – 1720.
Use- Leaf boiled lukewarm water poured over joints to join in joint pain.

Distribution: Common weed along road side and waste land Nagar-Manmad road Civil hospital. DCH – 1602
Use: Tonic: One table spoon powder of root with sugar similar proportion taken orally twice a day for 41 days.

RESULTS AND DISCUSSION

The study revealed in all 30 weed species of 18 families used for medicinal purposes have been documented. Majority of the species used are from families Asclpiadaceae and Solanaceae (4 each), Asteraceae, and Euphorbiaceae, Fabaceae(3each) and majority of preparations from Leaves (18), Underground parts (6), Stem bark (01), Fruits (01), Flower(1), Whole plant (04) and Latex (01) etc. Generally weeds have never been given much importance. As they are species unwanted in the place and being ignore or thrown away. Present communication may give leads to the researchers about the utility aspect of the weeds.

ACKNOWLEDGEMENTS

Mrs. J. R. Mulay is thankful to University Grant Commision, New Delhi for granting facilities and F. I. P. Authors are thankful to Principal of the Colleges for support and facilities.

REFERENCES

Indian medicinal plants, C.S.I.R., New Delhi.


AN ASSESSMENT OF FLORISTIC DIVERSITY OF AHMEDNAGAR, MAHARASHTRA

P. P. Sharma and J. R. Mulay

Department of Botany, Shri. Muktanand College, Gangapur, Dist. Aurangabad (M.S.)
*New Arts, Commerce and Science College, Ahemednagar (M.S.)

ABSTRACT

Present work is based on extensive botanical explorations carried out in the different parts of Ahmednagar with critical literature and herbarium studies. An assessment of floristic diversity of city revealed that, recently developed areas around the old city with open places and wastelands exhibit remarkable plant diversity. During the study total 343 plant species were documented. Of these, 49 species of 12 families were monocotyledonous and 290 species of 64 families were dicotyledonous, while 4 species of 4 families were recorded from pteridophytes. Herbs (162 species) were found to be most abundant, followed by trees (93 species) and shrubs (67 species). The most dominant family in the area was found to be Asteraceae (27 species), followed by Fabaceae (26 species), Poaceae (22 species), Caesalpiniaceae (22 species) and Euphorbiaceae (20 species). Total 20 endemic plants were found to be distributed in this area, 71 species were exotic and 48 were growing as weeds. About 215 species had medicinal potential, among which 60 plants have already been mentioned in Ayurvedic literature. Total 37 plants were in use as edibles.

Key words: Floristic, diversity, Ahmednagar.

Introduction

As regards the botanical explorations of Ahmednagar, earlier investigations have made notable contributions (Billore and Hemadri, 1969; Santapau and Irani, 1962; Wadhwa and Ansari, 1968; Rolla Rao, 1960; Janardhanan, 1983; Shirke, 1983; Hooker et al. 1872-1897; and Cooke, 1901-1908). However, extensive work on flora of the Ahmednagar district has been undertaken by Pradhan and Singh (1999). In spite this, the plant wealth of Ahmednagar region has not been given enough emphasis which needs more attention.

Materials and Methods

Present work includes survey, documentation, diversity and utility of plants from Ahmednagar. For this purpose the plants were collected, identified following Singh et al., (2000, 2001), Cooke (1901-1908), Pradhan and Singh (1999). For procuring ethno botanical information interviews of forest dwellers were arranged, for understanding knowledge of plants for medicinal purposes. Herbarium specimens have been deposited in the Herbarium of Deogiri College, Aurangabad.

Vegetation

Vegetation of the area has undergone tremendous change during the past four decades. Earlier, entire area around the old city was having notable wild flora. During expansion of the city, natural vegetation was destroyed, however, due to the plantation for avenues, in the parks, gardens, traffic squares, in back yards of houses, the green cover could be retained up to some extent. The plantation introduced several plants constituting major share of vegetation within the city. Most of the
open places, waste places and farm lands in outskirts of city harbor vegetation.

Avenue tree species include Millingtonia hortensis, Jacaranda mimosifolia, Caesalpinia pulcherrima, Azadirachta indica, Acacia auriculiformis, Grevillea robusta, Cassia fistula, Delonix regia, Polyalthia longifolia, Samanea saman, Peltaforum ferruginum, Ficus benghalensis, Ficus glomerata, Ficus religiosa, Pongamia pinnata, Spathodia comanulata, Terminalia arjuna. Some other plants usually employed for beautification are Homscoldia sanguinea, Tecoma stans, Caesalpinia pulcherrima, Nerium indicum, Poinciniaregia sps., Roystonea persica, etc.

The wild flora is mostly represented by scrubs and weeds. Few tree species recorded were Acacia nilotica ssp. indica, Pithocelllobium dulce, Dalbergia sissoo, Melia azadirach, Eugenia jambolina, Albizia lebbeck, Ficus religiosa, Ficus benghalensis, Ficus glomerata, Terminalia arjuna, Erythrina indica, with shrub species like Ricinus communis, Withania sominifer, Calotropis gigantea, Cryptostegia grandiflora, Adhatoda vesica, Ziziphus mauritiana and herbaceous elements like Indigofera linifolia, Ageratum conyzoides, Alternanthera tanella, Cleome gynandra, Euphorbia hirta, Tridax procumbens, Datura innoxia, Chrozophora prostrata, Boerhavia diffusa, Cassia uniflora, Cassia sophera, Cassia tora, etc. Cynodon dactylon, Dichanthium kuntzeana, Pennisetum species were common grasses.

Climbers and trailers were mainly represented by Diployclos palmatus, Pergularia daemia, Cardiospermum halicacabum, Cissampelos pareira, Coccinia grandis, Ipomoea carica, Ipomoea nil, Argyrea speciosa, Passiflora edulis, Tinospora cordofolia, etc.

The commonly occurring parasitic plants like Cuscuta reflexa, Dendrophoe falcata were common. The marshy and aquatic vegetation was represented by Hydrida verticillata, Ceratophyllum demersum, Bacopa monnieri, Typha angustata, Eichhornia crassipes, etc.

The Ahmednagar city thus comprised 339 species of flowering plants belonging to 287 genera and 86 families, (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>Families</th>
<th>Genera</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicotyledons</td>
<td>65</td>
<td>248</td>
<td>295</td>
</tr>
<tr>
<td>Monocotyledons</td>
<td>12</td>
<td>47</td>
<td>49</td>
</tr>
<tr>
<td>Pteridophytes</td>
<td>04</td>
<td>04</td>
<td>04</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>81</td>
<td>299</td>
<td>348</td>
</tr>
</tbody>
</table>

As many as 30 families were represented by one genus while 26 families represented by single genus and single species. Asteraceae emerged as largest family with 23 genera and 27 species, followed by Fabaceae with 23 genera and 26 species (Table 2).

<table>
<thead>
<tr>
<th>Family</th>
<th>No. of species</th>
<th>No. of Genera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asteraceae</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Fabaceae</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>Poaceae</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>Caesalpiniaeae</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>Euphorbiaceae</td>
<td>20</td>
<td>09</td>
</tr>
</tbody>
</table>

Endemism: Total 20 endemic plants were found to be distributed in the area (Table 3).

Exotics: The study revealed that the area comprised of 75 exotic species, which were naturalized or planted in the area. Introduction of exotics in the region may be adventitious and intentional for purposes of food, medicine, ornamental, avenues, etc. They constitute most of the road side places, gardens, parks, open places and waste places. (Table 4).
### Table 3. Endemic Plants at Ahmednagar

<table>
<thead>
<tr>
<th>Name of the Plant</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Blumea eriantha DC.</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>2. Blumea malcolmii (Cl.) Hook.f.</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>3. Clematis heynei M. A. Rao</td>
<td>Ranunculaceae</td>
</tr>
<tr>
<td>4. Clematis wightianall Wall. ex Weight</td>
<td>Ranunculaceae</td>
</tr>
<tr>
<td>5. Clitoria ternatea L.</td>
<td>Fabaceae</td>
</tr>
<tr>
<td>6. Cyanotis fasciculata (Heyne ex Roth) Schult.</td>
<td>Commelinaceae</td>
</tr>
<tr>
<td>7. Cyathocline purpurea (D. Don) O. Ktze.</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>8. Eranthemum roseum (Vahl) R. Br.</td>
<td>Acanthaceae</td>
</tr>
<tr>
<td>9. Hardwickia binata Roxb.</td>
<td>Caesalpiniaeae</td>
</tr>
<tr>
<td>10. Isachne bicolor Naik et Patunkar</td>
<td>Poaceae</td>
</tr>
<tr>
<td>11. Isoilema anthophoroides Hack.</td>
<td>Poaceae</td>
</tr>
<tr>
<td>12. Lepidagathis prostrata Dalz.</td>
<td>Acanthaceae</td>
</tr>
<tr>
<td>13. Moullava spicata (Dalz.) Nicolson</td>
<td>Caesalpiniaeae</td>
</tr>
<tr>
<td>14. Oropehtum roxburghianum (Stued.) Phillips</td>
<td>Poaceae</td>
</tr>
<tr>
<td>15. Phyllanthus scabridolus Hook.f.</td>
<td>Euphorbiaceae</td>
</tr>
<tr>
<td>16. Pseudoxoytanthera ritcheyi (Munro)Naithani</td>
<td>Poaceae</td>
</tr>
<tr>
<td>17. Pterocarpus marsupium Roxb.</td>
<td>Fabaceae</td>
</tr>
<tr>
<td>18. Senecio edgeworthii Hook.f.</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>19. Tricholepis glaberrima DC.</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>20. Wattakaka volubilis (L.f.) Stapf.</td>
<td>Asclepiadaceae</td>
</tr>
</tbody>
</table>

### Table 4. List of exotic plants from Ahmednagar.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Medicinal</th>
<th>Edible</th>
<th>Ornamental</th>
<th>Avenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcea rosea L.</td>
<td>Malvaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Allium cepa L.</td>
<td>Liliaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Anagellis arvensis L.</td>
<td>Primulaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Annona reticulata L.</td>
<td>Annonaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Antigonon leptomus Hook. &amp; Arn.</td>
<td>Chenopodiaceae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Arachis hypogea L.</td>
<td>Fabaceae</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Argemone mexicana L.</td>
<td>Papaveraceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Azadirachta indica A. Juss.</td>
<td>Meliaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Beta vulgaris L.</td>
<td>Chenopodiaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bougainvillea spectabilis Wild.</td>
<td>Nyctaginaceae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Brassica juncea (L.) Czern. &amp; Coss.</td>
<td>Brassicaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Caesalpinia pulcherrima (L.) Sw.</td>
<td>Caesalpiniaeae</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Capsicum annum L.</td>
<td>Solanaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Carica papaya L.</td>
<td>Caricaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Family</td>
<td>Code 1</td>
<td>Code 2</td>
<td>Code 3</td>
<td>Code 4</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td><em>Cassia occidentalis</em> L.</td>
<td>Caesalpiniaeae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Cassia tora</em> L.</td>
<td>Caesalpiniaeae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Catharanthus roseus</em> (L.) G.Don.</td>
<td>Apocynaeae</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Cestrum nocturnum</em> L.</td>
<td>Solanaceae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Chloris barbata</em> Swartz.</td>
<td>Poaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Datura innoxia</em> Mill.</td>
<td>Solanaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Daucus carota</em> L.</td>
<td>Apiaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Delonix regia</em> (Boj ex Hook.) Raf.</td>
<td>Caesalpiniaeae</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td><em>Digera muricata</em> (L.) Mart.</td>
<td>Amarantheae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Euphorbia hirta</em> L.</td>
<td>Euphorbiacea</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Euphorbia milli</em> Ch. Des Moulins.</td>
<td>Euphorbiacea</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Euphorbia pulcherrima</em> Wild. ex Klotz.</td>
<td>Euphorbiacea</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Euphorbia tirucalii</em> L.</td>
<td>Euphorbiacea</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Grevillea robusta</em> Cunn. ex R.Br.</td>
<td>Proteacea</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Helianthus annuus</em> L.</td>
<td>Asteraceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Hibiscus rosa-sinensis</em> L.</td>
<td>Malvaceae</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Hydrolea zeylanica</em> (L.) Vahl.</td>
<td>Hydrophyllaceae</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Kalanchoe pinnata</em> (Lam.) Pers.</td>
<td>Crassulaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Kalanchoe verticillata</em> Elliot</td>
<td>Crassulaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Kigelia pinnata</em> DC.</td>
<td>Bignoniaceae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td><em>Linum usitatissimum</em> L.</td>
<td>Linaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Malva verticillata</em> L.</td>
<td>Malvaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Malvastrum coromandelianum</em> (L.) Garcke.</td>
<td>Malvaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Manihot esculenta</em> Crantz.</td>
<td>Euphorbiacea</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Manilkara zapota</em> (L.) Van Royen.</td>
<td>Sapotaceae</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Medicago sativa</em> L.</td>
<td>Fabaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Mimosa pudica</em> L.</td>
<td>Mimosaceae</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Mirabilis jalapa</em> L.</td>
<td>Nyctaginaceae</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Nerium indicum</em> Mill.</td>
<td>Apocynaeae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Parkinsonia aculeata</em> L.</td>
<td>Caesalpiniaeae</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td><em>Parthenium hysterophorus</em> L.</td>
<td>Asteraceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Pilea microphylla</em> (L.) Liebm.</td>
<td>Urticaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Pithecellobium dulce</em> (Roxb.) Bth.</td>
<td>Mimosaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Plumeria alba</em> L.</td>
<td>Apocynaeae</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Plumeria rubra</em> L.</td>
<td>Apocynaeae</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Polyanthus tuberosa</em> L.</td>
<td>Amaryllidaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Prosopis juliflora</em> (Sw.) DC.</td>
<td>Mimosaceae</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Psidium guajava</em> L.</td>
<td>Myrtaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Punica granatum</em> L.</td>
<td>Lythraceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Raphanus sativus</em> L.</td>
<td>Brassicaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Ravenalia madagascarensis</em> Sonner.</td>
<td>Musaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Rhoeo spathacea</em> (Sw.) Stearn.</td>
<td>Commelinaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Ricinus communis</em> L.</td>
<td>Euphorbiacea</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Rosa multiflora</em> Thunb.</td>
<td>Rosaceae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><em>Roystonea regia</em> (H.B.&amp;K.) Cook.</td>
<td>Arecaceae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>
Weeds

Total 48 weeds have been documented from the region (Table 5).

Table V. List of Weeds from Ahmednagar.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Medicinal</th>
<th>Edible</th>
<th>Ornamental</th>
<th>Avenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruta graveolens L.</td>
<td>Rutaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sansevieria zeylanica Wild.</td>
<td>Agavaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sonchus oleraceus L.</td>
<td>Asteraeae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Spathodea cynamomata Beauv.</td>
<td>Bignoniaceae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Tagetes erecta L.</td>
<td>Asteraeae</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Tamarindus indica L.</td>
<td>Caesalpiniaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tecoma stans (L.) Kunth</td>
<td>Bignoniaceae</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Tricholepis glaberrima DC.</td>
<td>Asteraeae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tricholepis radicans</td>
<td>Asteraeae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tridax procumbens L.</td>
<td>Asteraeae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Verbena bipinnatifida</td>
<td>Verbenaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Xanthium indicum Koen. Ex Roxb.</td>
<td>Asteraeae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Zea mays L.</td>
<td>Poaceae</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Zebrina pendula Schnizl.</td>
<td>Commelinaceae</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Zinnia elegans Jacq.</td>
<td>Asteraeae</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

BIOINFOLET 1125

391
Medicinal Plants

Total 215 plants occurring in Ahmednagar were reported to have medicinal potential. Of these, 60 plants are used in the Ayurvedic formulations. Some of the common medicinal plants were Achyranthes aspera, Tamarindua indica, Tephrosia purpurea, Adhatoda vesica, Eugenia jombolina, Boerhavia diffusa, Bacopa monnieri, Crinum asiaticum, Ricinus communis, Tephrosia purpurea, Datura metal, etc.

Vegetation of the town thus showed remarkable diversity with 339 angiosperms, belonging to 86 families. About 75 species were exotic and 48 growing as weeds. Among exotic species 61 were having medicinal value, 26 edible, 20 used for ornamental purposes and 08 as avenue trees. Among weeds 48 were medicinally important, 11 edible and 2 ornamental. Total 215 plants occurring in the area have been reported to be used for different medicinal ailments and of these, 60 species have been mentioned in Ayurvedic literature. As per as endemics are concerned, 20 endemics are distributed in the town.

Acknowledgements:

Authors are thankful to the Principal, Shri Muktanand College, Gangapur, Aurangabad and Principal, New Arts, Commerce and Science College, Ahmednagar for facilities and constant encouragement.

References


SOME WEEDS USED AS MEDICINE TO URINARY TRACT DISEASES IN AHMEDNAGAR DISTRICT, MAHARASHTRA (INDIA)

J. R. Mulay and P. P. Sharma*

New Arts, Commerce & Science College, Ahmednagar, India.

*P G Department of Botany, Deogiri College, Aurangabad, India.

ABSTRACT: Traditional knowledge has assumed great importance in enhancing our knowledge about the plant which is used by the people since time immemorial. During last few decades, sufficient research work on ethnobotany has been done in various parts of India by various workers. However, Ahmednagar district have not been given enough attention as far as ethnobotanical studies are concerned.

INTRODUCTION

The simplest and most common definition of weed is “any plant growing where it is not wanted”. This statement contains one very important and central idea about weeds, which is that they are exclusively associated with man and his activities. Because there is no doubt about their importance to man and nearly everybody is familiar with most of weeds. The study revealed in all 19 weed species belonging to 19 genera and 14 families.

During the study 19 plant species of 14 families used for medicinal purposes have been documented. Majority of the species used are from families, Malvaceae (4), Poaceae (2), Amaranthaceae (2), Solanaceae, Asteraceae, Portulaccaceae Oxalidaceae, Mimosaceae, Crassulaceae, Cyperaceae, Cuscutaceae, Apiaceae, Chenopodiaceae, Liliaceae (one each). Majority of preparations from Leaves (09), Underground parts (1), Seed (01), Fruits (01), Flower (1) Whole plant (05) etc.

According to Anderson (1954), “history of weeds is the history of man”. The plants, which we call today as a weed, are persistent since time immemorial but during the ancient periods the prevailing forest conditions were not suitable for the growth of weedy species, and yet these plants were apparently present in certain places and were thus able to colonize as soon as artificially disturbed sites became available to them. There must always have been small local areas of disturbance due to natural causes such as rivers, but another likely possibility is that many plants of open habitats survived this period in the regions near sea shore or on higher mountain slopes where open conditions were maintained by the general physical environment. Under modern conditions weeds and plants with weedy characteristics are frequently the pioneers of secondary sucussions caused by man-made or natural disturbances of the environment, but in many cases this weedy phase is quite brief.

There is ample evidence that many weed species were also used for food by early man, though this practice is by no means confined to the past. Many of our present-day weeds thus have a long history in India, but a great many others were introduced from other parts of the world much later by successive groups of colonizers. The example of the weeds came from outside are Parthenium hysterophorus, Cassia spp., Echornia spp., etc.

Since man began to create disturbed environments on a large scale it is clear that enormous new possibilities have been opened up for weeds, and it is a striking fact that many weeds which are a serious problem in areas to which they have spread are relatively harmless in the places from which they were introduced.

It is worth re-emphasizing that some weedy plants were certainly selected by primitive man as crops. Amongst crops thought to have been selected and evolved from weedy ancestors are potatoes, carrots, sunflowers, barley, oats and rye; the weedy grass Aegilops is known to be an ancestor of modern wheat varieties. Thus weeds can be important to man in many ways, not all of them disadvantageous. The present communication will give a information about the weed plants and some of their utilities for mankind from Ahmednagar district.

The Ahmednagar district is located between 18°02’N lat., 19°09’E North latitude and 73°05’ and., 75° 05’ East longitude and is situated partly in the upper Godavari river basin and partly in the Bhima river basin. It is largest district of Maharashtra occupying more or less the central position in the state and with an area of 17,413 sq. km. As regards the botanical explorations in Ahmednagar, several people have made notable contributions, such as Billore and Hemadri (1972), Santapau (1951), Santapau and Irani (1962), Wadhwa (1970), Puri (1956-57), Rolla Rao (1960), Janardhanan (1964) most of these works resulted in enrichment of the Herbaria except few publications, like Shirke (1978). Hooker et al (1872-1897), Cooke (1909-1917) have recorded plants from Ahmednagar district in their publications. However, extensive work for the flora of the Ahmednagar district has been done by Pradhan and Singh (1999). Inspite such extensive works present investigations indicates that the plant wealth of Ahmednagar city area has not been given enough emphasis and needs more attention.

MATERIALS AND METHODS

The present ethno botanical survey was done during 2010-2012 in different villages of Ahmednagar Old experience and tribal medicine men (Vaidya) were consulted to know about the use of various plants growing in their localities. Herbariums of the useful weeds were prepared and identification was done following standard literature (Cooke, 1967; Singh et al, 2000 &2001; Cooke, 1958; Pradhan and Singh, 1999). Herbarium specimens are deposited in the Botany Department Deogiri College, Aurangabad. Following is the alphabetical list of plants with their scientific names, synonyms if any and local name, name of family and plant parts used in each case for a particular disease. Table 1 – Ethnomedicinal Uses of plants in the Urinaray tract Diseases

Uses of plants of the Ahmednagar district of Maharashtra
RESULTS AND DISCUSSION

The study revealed in all 19 weed species belonging to 19 genera and 14 families. During the study 19 plant species of 14 families used for medicinal purposes have been documented. Majority of the species used are from families Malvaceae(4), Poaceae(2), Amaranthaceae(2), Oleaceae, Asteraceae, Portulacaceae, Oxalidaceae, Mimosaceae, Crassulaceae, Cyperaceae, Cuscutaceae, Apiaceae, Chenopodiaceae, Liliaceae (One each) majority of preparations from Leaves (09), Underground parts (1), Seed (01), Fruits (01), Flower(1) Whole plant (05) etc.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Local Name</th>
<th>Locality</th>
<th>Herbarium No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Abelmoschus esculentus (L.) Moench</td>
<td>Malvaceae</td>
<td>Bhendi</td>
<td>Common along road side A. bad road near BTR regiment</td>
<td>1800</td>
</tr>
<tr>
<td>2. Achyranthes aspera L.</td>
<td>Amaranthaceae</td>
<td>Aghada</td>
<td>Very common on wasteland Shendi near S.T. stand</td>
<td>1756</td>
</tr>
<tr>
<td>3. Asparagus racemosus Var. javanica Wild</td>
<td>Liliaceae</td>
<td>Shatavari</td>
<td>Bhandardara rocky hilly slopes</td>
<td>1871</td>
</tr>
<tr>
<td>4. Basella alba L.</td>
<td>Chenopodiaceae</td>
<td>Mayula</td>
<td>Near village Padali Parner</td>
<td>1666</td>
</tr>
<tr>
<td>5. Celosia argentea L.</td>
<td>Amaranthaceae</td>
<td>Kurdu</td>
<td>Common weed in fallow field Shendi</td>
<td>1753</td>
</tr>
<tr>
<td>6. Centella asiatica (L.) Urb, in Mart (Syn. Hydrocotyle asiatica,)</td>
<td>Apiaceae</td>
<td>Brahami</td>
<td>Common on moist places Mula chari</td>
<td>1807</td>
</tr>
<tr>
<td>7. Coix lacrymal-jobi L.</td>
<td>Poaceae</td>
<td>Ran maka</td>
<td>Ran maka</td>
<td>1903</td>
</tr>
<tr>
<td>8. Cuscuta reflexa Roxb</td>
<td>Cuscutaceae</td>
<td>Amar vel</td>
<td>Very common parasite Bhandardara</td>
<td>1777</td>
</tr>
<tr>
<td>10. Cyperus rotundus L.</td>
<td>Cyperaceae</td>
<td>Nagar motha</td>
<td>Frequent in moist places Dahigam near sina river</td>
<td>1828</td>
</tr>
<tr>
<td>11. Hibiscus caesius L.</td>
<td>Malvaceae</td>
<td>Ranambadi</td>
<td>Chandibib mahal</td>
<td>1709</td>
</tr>
<tr>
<td>12. Hibiscus sabdariffa L.</td>
<td>Malvaceae</td>
<td>Lal ambadi</td>
<td>Bhandardara</td>
<td>1809</td>
</tr>
<tr>
<td>13. Kalanchoe pinnata (Lam.) Pers</td>
<td>Crassulaceae</td>
<td>Panphuti</td>
<td>Common along road side camp area</td>
<td>1904</td>
</tr>
<tr>
<td>14. Mimosa pudica L.</td>
<td>Mimosaceae</td>
<td>Lajalu</td>
<td></td>
<td>1900</td>
</tr>
<tr>
<td>15. Oxalis corniculata L.</td>
<td>Oxalidaceae</td>
<td>Gholachi bhaji</td>
<td>Common weed along road side and waste land &amp; garden</td>
<td>1738</td>
</tr>
<tr>
<td>16. Portulaca oleracea L. and Portulaca quadriloba L.</td>
<td>Portulacaceae</td>
<td>Gholachi bhaji</td>
<td>Common weed along road side and waste land &amp; garden Camp garden</td>
<td>1801</td>
</tr>
<tr>
<td>17. Sida rhombifolia L.</td>
<td>Malvaceae</td>
<td>Bala</td>
<td>Forest nursery Shendi</td>
<td>1678</td>
</tr>
<tr>
<td>18. Solanum nigrum L.</td>
<td>Solanaceae</td>
<td>Kanguni</td>
<td>Common weed along road side and waste land Shendi near bypass</td>
<td>1735</td>
</tr>
<tr>
<td>19. Xanthium indicum Koen in Roxb. Use-Deedction of roots.</td>
<td>Asteraceae</td>
<td>Landga</td>
<td>Common weed along road side and waste land Camp area</td>
<td>1848</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

Ms. J. R. Mulay is thankful to University Grant Commission, New Delhi for granting facilities and F. I. P. Authors are thankful to Principal of the College and Secretary, M.S.P. Mandal, Aurangabad for support and facilities.

REFERENCES

Haines, H.H. (1924). The Botany of Bihar and Orissa, Part VI.
Plants Used in Treatment of Jaundice by Folklore of Ahmednagar district, Maharashtra, India

Mulay J R¹ and P P Sharma²

¹New Arts, Commerce & Science College, Ahmednagar, India.
²P G Department of Botany, Deogiri College, Aurangabad, India.
dr_ppsharma@yahoo.co.uk

ABSTRACT
Since time immemorial plants have traditionally served as man’s most vital resource for treating various diseases. India is repository of herbal medicines & there are evidences that have been utilized as medicine for revitalizing body system from ancient civilization. Traditional Systems of Medicine have proved that several chronic diseases can be successfully treated by using herbs. As now today, in most of the rural parts of the country modern medical facilities are not easily accessible and hence, the folk depend on herbal medicine in treating various diseases. Due to lesser side effects and better results, interest in medicinal plants is increasing as an alternative to the modern medicine. Therefore, there is an urgent need for conservation of this valuable treasure. As jaundice is most prevalent disease in the major rural pockets of the district, 44 plant species used in the treatment of jaundice have been reported in the present communication.

Key words: Jaundice, plants used, Ahemednagar, Maharashtra.

INTRODUCTION
The rural people of the district are still dependent upon wild plants for the treatment of various diseases. These people have gathered good knowledge about the useful properties of the plants in the nearby forests. They gather medicinal plants from nearby forests and use these plant materials as raw drugs. However, as a result of modernization and human’s uncontrolled activities, life style of these people is changing fastly and ultimately resulting in loss of traditional knowledge among folks. Hence, efforts should be made to document the various uses of plants before some of these are eliminated from the area, or before these inhabitants shift over to modern remedies. However, the vast store of ethnomedical information of these study areas has not been fully documented. (Badgujar & Patil, 2008; Vijigiri Dinesh & Sharma, 2010; Chandrashekar & Srivastava. 2005; Mohammad and Suradkar, 2011; Patil & Biradar, 2011; Prachi et al., 2009; Reddy, 2007; Reddy, 2008)

Study Area: The Ahmednagar district is located between 18°02’ and 19°09’ north latitude and 73°09’ and 75°05’ east longitude and is situated partly in the upper Godavari river basin and partly in the Bhima river basin. It is largest district of Maharashtra occupying more or less the central position in the state and with an area of 17,413 sq. km. The district is divided into 14 revenue taluka’s. ‘Kalsubai’ the highest peak in Western Ghats of Maharashtra fall under district jurisdiction.

Vegetation: The vegetation of district is quite varied and interesting. Forests are of typical moist deciduous type. The area is also rich in a number of economically important species. The district is studied with number of tribal (adivasi) pockets. (Pradhan and Singh, 1999) reported 12 endemic plants and 11 rare plants in Ahmednagar district.

People: Major tribes found in the district are Thakar, Bhil, Mahadeo koli, Paradhi, etc. besides this several other communities reside in the forests as a forest dweller and invariably depend on forest products for their livelihood (Chhaya Bhalshankar, 2012; Dabgar, 2012; Lal & Singh S, 2012; Rajesham et al., 2013; Sainkhediya & Ray, 2012.).
ETHODOLOGY

The present work included survey and documentation of plants used in the treatment of jaundice. The methodology used for procuring information through interviews of forest dwellers with knowledge of plants for medicinal purposes. Interviews consisted of open and semi-structured questions and the information collected was verified during different occasions with same informant and in different localities with other informers on different occasions. Plants identified in the laboratory using keys for botanical determination given in different floras such as,


<table>
<thead>
<tr>
<th>Plant Name, Family &amp; Local Name</th>
<th>Plant Part</th>
<th>Use/s</th>
<th>Locality &amp; Field Voucher No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrus Precatorius L. (Fabaceae) ‘Gunj’</td>
<td>Root</td>
<td>Roots of this plants along with seeds of Smilax zeylanica, Asparagus racemosus and Brassica juncea are ground then sterilized with 8 hot earthen specks and taken orally twice for 5 days</td>
<td>Gorakshshanathgad near temple, DCH-1694</td>
</tr>
<tr>
<td>Abution indicum (L.) Sweet. (Malvaceae) ‘Atibala, Mudra’</td>
<td>Leaves</td>
<td>One spoonful of extract is given with a cup of cow milk early in the morning for a week. In meal rice along with cow milk is taken only.</td>
<td>Very common on wasteland Shendi, DCH-1665</td>
</tr>
<tr>
<td>Acalypha indica L. (Euphorbiaceae) ‘Kokali’</td>
<td>Leaves</td>
<td>Two teaspoons of paste given with a curd once for 3 days. 9 leaves 9 black peppers and camphor are mixed and made into paste. This paste is made into pills of peanut size and pills are given every morning and evening with water milk for 15 days.</td>
<td>Very common on wasteland Shendi by pass, DCH-1613</td>
</tr>
<tr>
<td>Anthospermum hispidum DC. (Asteraceae) ‘Germankata’</td>
<td>One teaspoon of fresh root juice is given once a day for 3 days.</td>
<td>Very common on wasteland Shendi by pass, DCH-1696</td>
<td></td>
</tr>
<tr>
<td>Aloe vera L. (Lillaceae) ‘Korpad’</td>
<td>Fresh leaf juice is given 3 days twice a day till cure. 25mlml of leaf juice is mixed with 3 black peppers given twice a day for 3 days Butter milk is given only during those days.</td>
<td>Very common on wasteland Camp area near fort, DCH-1629</td>
<td></td>
</tr>
<tr>
<td>Andrographis paniculata Nees. (Apiaceae) ‘Kalmegh’</td>
<td>Aspoonful of powder is giventwice a day till cure. 5 gm of the paste along with the paste of 7 black peppers is taken orally till cure.</td>
<td>Rahuri Dhanvnatari Nursery, DCH-1804</td>
<td></td>
</tr>
<tr>
<td>Anethum graveolens L. (Apiaceae) ‘Balant shepu’</td>
<td>Leaf</td>
<td>10-15 ml of fresh juice is given orally till cure.</td>
<td>Bajabaiche deul,DCH-1774</td>
</tr>
<tr>
<td>Argemone mexicana L. (Papaveraceae) ‘Bilayat’</td>
<td>Spines</td>
<td>Spines of the leaves are removed and are made into paste. This paste is</td>
<td>Very common along roadside A.bad road</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Part Used</td>
<td>Application</td>
<td>Location</td>
</tr>
<tr>
<td>------------</td>
<td>-----------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Asparagus racemosus</strong> var. javanica Willd. (Liliaceae) ‘Shatavari’</td>
<td>Root</td>
<td>Roots are roasted and eaten 3 thrice a day for 3 days.</td>
<td>Bhandardara rocky hilly slopes, DCH-1871</td>
</tr>
<tr>
<td><strong>Boerhavia rapens</strong> L. var. diffusa (L.) Hook (Nyctaginaceae) ‘Purnava’</td>
<td>Whole Plant</td>
<td>One spoonful of powder is taken in hot milk for 3 days. A paste is made into pills of 1 gm, 3 pills are given thrice a day for 7 days.</td>
<td>Very common along roadside BTR regiment, DCH-1734</td>
</tr>
<tr>
<td><strong>Calotropis procera</strong> (Alt.) R. Br. (Asclepiadaceae) ‘Mandar’</td>
<td>Bark</td>
<td>The stem bark with common salt ginger and black pepper extract given 10-15ml once for 15 days.</td>
<td>Very common along roadside Burhanagar DCH-1729</td>
</tr>
<tr>
<td><strong>Cassia fistula</strong> L. (Caesalpiniaceae) ‘Bahava’</td>
<td>Leaves</td>
<td>Leaves are powdered and mixed with fruit powder of <em>Terminalia chebula</em> and one tablespoonfull is given with milk till cure.</td>
<td>Planted Bhandardara DCH-1733</td>
</tr>
<tr>
<td><strong>Cassia occidentalis</strong> L. (Caesalpiniaceae) ‘Ran takala’</td>
<td>Leaves</td>
<td>Juice is mixed with butter milk in equal amount and 10 – 20 ml taken thrice a day for 7 days.</td>
<td>Very common weed along roadside Bajabaiche deoul1786</td>
</tr>
<tr>
<td><strong>Centella asiatica</strong> (L.) Urb, (Apiaceae) ‘Brahami’</td>
<td>Whole Plant</td>
<td>10-20 ml of the plant juice is given twice aday till cure.</td>
<td>Comm in moist places Mula chari DCH-1807</td>
</tr>
<tr>
<td><strong>Citrullus colocynthis</strong> L. (Cucurbitaceae)</td>
<td></td>
<td>6gm of the fruit powder along with jaggery is given daily once till cure, Root powder is also given orally till cure.</td>
<td>In near H-1686</td>
</tr>
<tr>
<td><strong>Coccinia grandis</strong> (L.) Voigt (Cucurbitaceae) ‘Tondli’</td>
<td>Root</td>
<td>Paste is applied on the head for 3 days,</td>
<td>Common weed in fallow field Dahigaoan DCH-1685</td>
</tr>
<tr>
<td><strong>Curculigo orchiodes</strong> Gaertn. (Hypoxidaceae) ‘Kali musali’</td>
<td>Tuber</td>
<td>20 gm of the paste given with sugar and a glass of milk daily once till cure.</td>
<td>Ghatghar DCH-1679</td>
</tr>
<tr>
<td><strong>Cyperus rotundus</strong> L. (Cyperaceae) ‘Nagar motha’</td>
<td>Root</td>
<td>Powder is given with buttermilk, garlic, and black pepper till cure.</td>
<td>Frequent in moist places Dahigaoan near sina river DCH-1828</td>
</tr>
<tr>
<td><strong>Desmostachya bipinnata</strong> (L.)DC. (Poaceae) ‘Kush’</td>
<td>Root</td>
<td>Juice with decoction of 9 pepper in 3:2 ratio is given once a day till cure,</td>
<td>Bhandardara dam, DCH-1756</td>
</tr>
<tr>
<td><strong>Eclipta alba</strong> Hassak (Asteraceae) ‘Maka’</td>
<td>Whole Plant</td>
<td>Plant is boiled in water and 50ml decoction is taken twice a day for a week. Whole plant is mixed with rhizome powder of <em>Zinger officinale</em> and is given with milk till cure. Leaf juice is given orally with curd till cure.</td>
<td>Frequent in moist places Kapurwadi talavDCH-1761</td>
</tr>
<tr>
<td><strong>Euphorbia tirucalli</strong> L. (Euphorbiaceae) ‘Sher’</td>
<td>Latex</td>
<td>Diluted latex with decoction of black peppers in ratio of 3:2 is given orally till cure.</td>
<td>Burhanagar, DCH-1827</td>
</tr>
<tr>
<td><strong>Evolvulus alsinoides</strong> L. (Convolvulaceae) ‘Vishnukant’</td>
<td>Leaves</td>
<td>2 spoonful of leaf paste is mixed with onion bulb paste and is given twice a day with cow milk for 3 days.</td>
<td>Frequent in moist places Burhanagar, DCH-1724</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Part Used</td>
<td>Action</td>
<td>Location</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------</td>
<td>---------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Gymnema sylvestre (Retz.) R.Br.</td>
<td>Leaves</td>
<td>Three leaves are mixed with that of beetle leaves and they are ground. The paste is given orally for 3 days</td>
<td>Bhandardara, DCH-1635</td>
</tr>
<tr>
<td>Hemidesmus indicus R. Br. (Perplocaceae)</td>
<td>Root</td>
<td>Root of this plant along with sugarcandy, dried rhizome of Zingiber officinalis, pepper, root of Cassia auriculata in equal proportion, are ground and made into pills these are 3 pills given once a day for 15 days.</td>
<td>Bhandardara1 DCH-1666</td>
</tr>
<tr>
<td>Ipomoea aquatica Forssk. (Convolvulaceae)</td>
<td>Whole Plant</td>
<td>Fresh juice of plant with cow milk in ratio of 1:2 is given orally till cure.</td>
<td>Pravara sangam, DCH-1646</td>
</tr>
<tr>
<td>Jatropha curcas L. (Euphorbiaceae)</td>
<td>Latex</td>
<td>100ml of latex is mixed with 200-300gm of sugar and is cooked. A spoon of juice is taken orally. Fish, meat chicken are avoided during the treatment period.</td>
<td>Common along road side camp area near fort, DCH-1701</td>
</tr>
<tr>
<td>Justica adhatoda L. (Acanthaceae)</td>
<td>Leaves</td>
<td>Leaves along with the leaves of Plumbago zeylanica are powdered and is given with milk once a day for 7 days.</td>
<td>Police headquarter A nagar, DCH-1739</td>
</tr>
<tr>
<td>Leucas plukenetii (Roth) Spr. (Lamiaceae)</td>
<td>Shoots</td>
<td>Fresh juice of young shoot is used as nasal drops.</td>
<td>Devgan, DCH-1779</td>
</tr>
<tr>
<td>Ocimum tenuiflorum L. (Lamiaceae)</td>
<td>Leaves</td>
<td>Leaf infusion or juice is drunk till cure or Entire plant juice is drunk along with buttermilk till cure.</td>
<td>Shah sharif durga DCH-1687</td>
</tr>
<tr>
<td>Oxalis corniculata L. (Oxalidaceae)</td>
<td>Whole Plant</td>
<td>Ateaspoonful of fresh juice of the whole plant is mixed with butter milk is taken once a day till cure.</td>
<td>Common weed along road side and waste land &amp; garden, DCH-1738</td>
</tr>
<tr>
<td>Pergularia daemia (Forsk.) Choiv. (Asclepiadaceae)</td>
<td>Bark</td>
<td>Bark of this plant along with that of Moringa oleifera bark with 5 pepper seeds are ground and made into 3 equal parts and is given once in a day for 3 days. Only curd rice is taken during this treatment.</td>
<td>Common weed fallow field &amp; waste land Dahigoan, DCH-1778</td>
</tr>
<tr>
<td>Phyllanthus amarus Schum, &amp; Thone. (Euphorbiaceae)</td>
<td>Whole Plant Root</td>
<td>Whole plant is made into paste and mixed with curd and is given in doses of 3 spoonful twice a day for 7 days. 1 teaspoonful of root powder is given on empty stomach daily once for week.</td>
<td>Common weed along road side and waste land &amp; garden BTR regiment, DCH-1670</td>
</tr>
<tr>
<td>Plumbago zeylanica L. (Plumbaginaceae)</td>
<td>Leaves Roots</td>
<td>Leaf and root decoction is drunk and also used for bath till cure.</td>
<td>Bhandardara, DCH-1785</td>
</tr>
<tr>
<td>Portulaca oleracea L. (Portulacaceae)</td>
<td>Whole Plant</td>
<td>Whole plant is sundried and powered, 2-3 spoons of the powder are given on empty stomach for about aweek.</td>
<td>Common weed along road side and waste land &amp; garden Camp garden, DCH-1801</td>
</tr>
<tr>
<td>Ricinus communis L. (Euphorbiaceae)</td>
<td>Leaves</td>
<td>8-10 Tender leaves are ground with 8 pepper seeds and made into pills of pea size. 1 pill is given once a day with cow milk.</td>
<td>Common weed along road side and waste land Shendi near bypass, DCH-1693</td>
</tr>
</tbody>
</table>
### RESULTS AND DISCUSSION

During the study 44 plant species of 26 families used for treating jaundice have been recorded along with the details like plant part used and mode of administration. Majority of the species used are from families Asclepiadaceae and Solanaceae (4 each), Asteraceae, and Euphorbiaceae, Fabaceae (3 each) and majority of preparations from Leaves (16), Underground parts (13), Stem bark (01), Stem (5) Fruits (03), Whole plant (07) and Latex (01) etc.

### ACKNOWLEDGEMENTS

Mrs. J. R. Mulay is thankful to University Grants Commission, New Delhi for granting fellowship under F. I. P. and Authors are thankful to Principal of the Colleges for support and facilities.

---

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Part Used</th>
<th>Preparation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Sida acuta</em> Burm.f. (Malvaceae) <em>Bala</em></td>
<td>Bark</td>
<td>25gm of bark of this plant and 1 inch rhizome of <em>Cucumis longa</em> are ground and is filtered by using white cloth and is mixed ½ glass of water and is sterilized in hot earthen pot and is taken twice a day for 3 days. Rice with butter milk is only taken during the treatment.</td>
<td>Chandbibi mahal, DCH-1623</td>
</tr>
<tr>
<td><em>Solanum anguivi</em> Lam. (Solanaceae) <em>Wange</em></td>
<td>Whole Plant</td>
<td>Decoction of the whole plant is taken with curd till cure.</td>
<td>Chandbibi mahal, DCH-1627</td>
</tr>
<tr>
<td><em>Solanum nigrum</em> L. (Solanaceae) <em>Wange</em></td>
<td>Whole Plant</td>
<td>Entire plant infusion is drunk for 4 days. Leaves are shade dried and powdered 1 spoons of this powder is given daily thrice for a week. Decoction of the leaves mixed with honey is given orally till cure.</td>
<td>Common weed along road side and waste land Shendi near bypass, DCH-1735</td>
</tr>
<tr>
<td><em>Ip omorpheae</em> (L.) Pers. <em>Unahali</em></td>
<td>Leaves</td>
<td>Leaves are ground and given with buttermilk which contains a piece of garlic and 3 pepper till cure.</td>
<td>Common weed along road side and waste land ibanndhibi mahal, DCH-1607</td>
</tr>
<tr>
<td><em>Tinospora cordifolia</em> (Willd) Miers ex Hook. F. (Menispermaceae) <em>Gulvel</em></td>
<td>Root, Stem, Leaves</td>
<td>a. 20-30 ml of the root decoction is given till cure. 12 gm of the stem paste is given with honey daily once for 3 days. Leaves and fruits are macerated into powder and taken orally till cure. b. Decoction of the fresh fruit and leaf is drunk till cure.</td>
<td>Vrudheshwar near temple, DCH-1740</td>
</tr>
<tr>
<td><em>Tribulus terrestris</em> L. (Zygophyllaceae) <em>Sarata</em></td>
<td>Fruit</td>
<td>Decoction of the fresh fruit and leaf is drunk till cure</td>
<td>Common weed along road side and waste land &amp;fallow field Dahigoan, DCH-1644</td>
</tr>
<tr>
<td><em>Tridax procumbens</em> L. (Asteraceae) <em>Ekdandi</em></td>
<td>Whole Plant</td>
<td>Plant paste with jiggery is given once in a day for 3-7 days. or 50 ml of the plant juice is given thrice a day for week.</td>
<td>Common weed along road side and waste land nea r civil hospital, DCH-1626</td>
</tr>
<tr>
<td><em>Tylophora dalzelli</em> Hook. (Asclepiadaceae)</td>
<td>Root paste is applied over the eyelid for 3 days.</td>
<td>Very common on hill slopes Bhandadara, DCH-1809</td>
<td></td>
</tr>
<tr>
<td><em>Woodfordia fruticosa</em> (L.) Kurz. (Lythraceae), <em>Dhyati</em></td>
<td>Bark</td>
<td>Bark along with bark of <em>Bauhinia racemosa, Mangifera indica, and Oroxylum indicum</em> are taken in equal proportions and extract is made, 20-30 ml of this extract is given twice a day for 4-6 days.</td>
<td>Chandanapuri ghat, DCH-1736</td>
</tr>
</tbody>
</table>
LITERATURE CITED
Ambasta SP, 1992. The useful Plants of India, Publication & Information Directorate, CSIR, New Delhi, India.
Mohammad NI and Suradkar SS, 2011. Ethnobotanical and Ethnomedicinal study of some medicinal plants of Barshitala tahsil, District Akole (MS), India, Bioscience Discovery, 2 (2): 236-239.

Sharma PP and Singh NP. 2001. Ethnobotany of Dadra Nagar Haveli and Daman, (Union Territories), Botanical Survey of India, Kolkata, India.


How to Cite this Article: