Ethano-medicinal use of plants of Mount Abu Region

1Ashwini Kumar Sharma and 2 G.S. Indoriya

1Associate Professor, P.G.Department of Dravyaguna M.M.M. Government Ayurvedic College, Udaipur, Rajasthan
Email: drashwinisharma1972@gmail.com
2Dean and Principal Madhav Ayurvedic Medical College, Madhav University, Abu Road, Distt. Sirohi, Rajasthan

Abstract

The highest peak of Mount Abu is Guru Shikhar at 1722 m (5,650 ft) above sea level. The area is botanically the most important part of the Rajasthan. Here the climate is more humid and environmental conditions are quite favorable for the growth of natural vegetation. The slopes and base (Foot hills) including the plateau are covered with mixed deciduous forest, sprinkled with evergreen species. The main tribes of the study area are Bhil, Meena, Garasia and Kathodi, which form 12% of the total population of the state. The paper reviews the ethno medicinal uses of 15 plant species of Mount Abu, Rajasthan, used by the traditional practitioners. These hill ranges possess an abundant population of various tribes.

Keywords: Abu, Evergreen Species, Ethno medicine.

Introduction

Southern region of Rajasthan includes mainly Mt. Abu, Sirohi, Kumbalgarh, Dungarpur, Parasramji, Udaipur and Banswara(1). Mount Abu is referred to as 'an oasis in the desert' as its heights are home to rivers, lakes, waterfalls and evergreen forests. The climate of Mount Abu varies greatly from the foot hills to high altitude. Average rainfall in Mount Abu is 1500 mm (2). Collection of medicinal plants from different Mount Abu regions has been a common practice among indigenous people and medical practitioners. The vegetation of Mount Abu supports dry deciduous, semi-deciduous and evergreen species, which changes with the increase in altitude (3).

Table 1: Fifteen Ethano-medicinal Plants of Mount Abu area, Rajasthan

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>English Name</th>
<th>Useful Part</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ankol</td>
<td>Alangium Salvifolium</td>
<td>Alangiaceae</td>
<td>Sage leaved Alangium</td>
<td>Root, bark, Fruit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(linn.f)Wang</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aapamarg</td>
<td>Achyranthus aspera Linn.</td>
<td>Aamaranthaceae</td>
<td>Prickly Chaff Flower</td>
<td>Root, Leaves, Seeds, Whole Part</td>
</tr>
<tr>
<td></td>
<td>Satyanashi</td>
<td>Argemone maxicana Linn.</td>
<td>Papaverceae</td>
<td>Mexican</td>
<td>Root, Seed</td>
</tr>
</tbody>
</table>

Climate data for Mount Abu/ Historical Weather data (4)

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Temp.</td>
<td>14.3</td>
<td>16.5</td>
<td>20.7</td>
<td>24.9</td>
<td>27.1</td>
<td>25.1</td>
<td>22.1</td>
<td>20.8</td>
<td>21.6</td>
<td>22.2</td>
<td>18.9</td>
<td>16.2</td>
</tr>
<tr>
<td>Min. Temp.</td>
<td>9.1</td>
<td>11.4</td>
<td>15.7</td>
<td>19.9</td>
<td>22.3</td>
<td>20.7</td>
<td>19.5</td>
<td>18.6</td>
<td>18.6</td>
<td>17.3</td>
<td>13.3</td>
<td>11</td>
</tr>
<tr>
<td>Max. Temp.</td>
<td>19.6</td>
<td>21.7</td>
<td>25.8</td>
<td>29.9</td>
<td>32</td>
<td>29.5</td>
<td>24.8</td>
<td>23</td>
<td>24.7</td>
<td>27.1</td>
<td>24.5</td>
<td>21.5</td>
</tr>
<tr>
<td>Precipitation/Rainfall (mm)</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>96</td>
<td>572</td>
<td>641</td>
<td>266</td>
<td>12</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>
### Table 2: Plants and their properties according to Ayurvedic text (5)

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Sanskrit Name</th>
<th><em>Guna</em></th>
<th><strong>Rasa</strong></th>
<th>Virya ***</th>
<th>Vipak</th>
<th>Dosh-Karam</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ankol</td>
<td>Laghu, Snigdh, Tiksha, Sar</td>
<td>Tikta, Katu, Kashaya</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kaphavatahar, Pitta-Samsodhan</td>
</tr>
<tr>
<td>2</td>
<td>Aapamarg</td>
<td>Laghu, Ruksha, Tiksha</td>
<td>Katu, Tikta</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kaphavatahar, Kaphapitta samsodhan</td>
</tr>
<tr>
<td>3</td>
<td>Satyanashi</td>
<td>Laghu, Ruksha</td>
<td>Tikta</td>
<td>Sheet</td>
<td>Katu</td>
<td>Kaphapitthar</td>
</tr>
<tr>
<td>4</td>
<td>Sweta-aak</td>
<td>Laghu, Ruksha</td>
<td>Katu, Tikta</td>
<td>Ushna</td>
<td>Katu</td>
<td>Vatakaphahar</td>
</tr>
<tr>
<td>5</td>
<td>Aak</td>
<td>Laghu, Ruksha, Tiksha</td>
<td>Katu, Tikta</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kaphapitthar</td>
</tr>
<tr>
<td>6</td>
<td>Matulung</td>
<td>Tiksha</td>
<td>Amala</td>
<td>Ushna</td>
<td>Amala</td>
<td>Kaphavatahar</td>
</tr>
<tr>
<td>7</td>
<td>Mustak</td>
<td>Laghu, Ruksha</td>
<td>Tikta, Katu, Kashaya</td>
<td>Sheet</td>
<td>Katu</td>
<td>Kaphapitthar</td>
</tr>
<tr>
<td>8</td>
<td>Ama-haldi</td>
<td>Laghu, Sara</td>
<td>Madhura, Tikta</td>
<td>Sheet</td>
<td>Katu</td>
<td>Kaphapitthar</td>
</tr>
<tr>
<td>9</td>
<td>Indravaruni</td>
<td>Tikta</td>
<td>Laghu, Ruksha</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kaphapitthar</td>
</tr>
<tr>
<td>10</td>
<td>Tarkari</td>
<td>Laghu, Ruksha</td>
<td>Katu, Tikta, Kashaya</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kaphavatahar</td>
</tr>
<tr>
<td>11</td>
<td>Varahikand</td>
<td>Laghu, Snigdh</td>
<td>Katu, Tikta, Madhur</td>
<td>Ushna</td>
<td>Katu</td>
<td>Tridosahara</td>
</tr>
<tr>
<td>12</td>
<td>Dugadhika</td>
<td>Ruksha, Guru, Tiksha</td>
<td>Katu, Tikata, Madhur</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kaphahar</td>
</tr>
<tr>
<td>13</td>
<td>Adusa</td>
<td>Ruksha, Laghu</td>
<td>Tikta, Kashaya</td>
<td>Sheet</td>
<td>Katu</td>
<td>Kaphapitthar</td>
</tr>
<tr>
<td>14</td>
<td>Madhuk</td>
<td>Guru, Snigdh</td>
<td>Madhur, Kashaya</td>
<td>Sheet</td>
<td>Madhur</td>
<td>Vatapittahar</td>
</tr>
</tbody>
</table>
The Study

The study of the fifteen plants was carried out. The details of chemical constituents, main functions and ethanobotanical uses have been mentioned. Photographs have also been given for better comprehension.

1. Dravya - Ankol
   Chemical Constitute -- Root bark - Alangine, Marckine
   Stem Bark - Lamarckinine
   Stem - Emetine, Cephaeline
   Leaves - Ankorine, Campester
   Seeds - Betulinic acid, Lupeol(6)
   Main Function -- Vishagna (Anti-Venome)
   Ethan botanical use -- One glass stem bark decoction is given once a time to cure snakebite.

2. Dravya - Aapamarg
   Chemical Constitute--- Seed - Oleonolic acid glycosides, Betaine, Achyranthine,
   Hentriacontane, Ecdysterone; achyranthes saponin A,B,C,D.
   Leave - Hydroquinone (7)
   Main Function - Yakritya (Liver Tonic)
   Ethan botanical use - Achyranthes aspera is useful in migraine; juice drops are administered via nostril.
   Red variety is also used in impotency. (8)

3. Dravya – Satyanashi
   Chemical Constitute - Whole Plant- Isorhamnetion, Berberine and Protopine.
   Seed oil: Myristic, Palmitic, oleic, Linoleic acids.(9)
   Main Function - Sukh- Virechan (Mild-Laxative)
   Ethan botanical use - Few drops of seed oil with sugar taken in constipation.
4. Dravya Sweta-Aak
Chemical Constitute- Laurane, Saccharose, B-amyrin, A&B calotropeols, Holarrheteine, Cyanidin-(3)- rhamnoglucoside, Taraxsterol isovalerate,Giganteol, Calotroposide, Calactin Calotoxin, Calotropins DI &DII, Gigantin.(10)
Main Function – Krimihar (Anti-worm), Virechan (Laxative)
Ethan botanical Use -White flowered variety used to treat baadi (gastric problem).
Leaves – headache, paralysis, Latex – boil, skin disease (11)

5. Dravya- Aak
Chemical Constitute- A&B Amyrins, Cyanidin-3-Rhamnoglucoside, procesterol, B-sitosterol, Calactin Caotoxin, Calotropagenin, Calotropin, Procercoside, Proceragenin.(12)
Main Function- Tikshna-Virechna (Purgative)
Ethan botanical Use -Red flower ash used to increase vision and treatment of eye infection.
Its red flower is used as stone medicine.
Flower buds – Malaria, Roots – Elephantiasis. (13)

6. Dravya – Matulung
Chemical Constitute - Whole Plant- Citric acid, Sulphuric acid, glucose, Abscisic Acid, Abscisin II, Limonin, Limonene, Limocitrol, Rutin.
Peel contains citrol, citrine, Peel- Citroflavonoids. Essential oil- limonene(14)
Main Function- Triptighana (Its useful in thirst.)
Ethan botanical Use - Cut and add black salt, Ajwain (Trachyspermumammi), cumin (50gm each) and Prepare tablets of one spoon size. Take before going to bed. Also take boiled and then cooled water,adds saunf (Foeniculumvulgare)to it, grind it in the morning and add 2 Batase (sugar drops)and then taken with 250 ml water. Kidney stones get broken and come out within 5-6 days.
The tribals also tie the lemon along with green fresh chillies and charcoal at the main entrance of huts with the belief that evil spirits will not enter in their huts.(15)
7. Dravya-Mustak  
Chemical Constituent- Cineol(+), copadiene, Copaene, Cyperol, Cyperolone, a- Cyperone, (+) epoxyguaiene, Isocyperol, isokobusone, Kodusone, Mustakone, Patchilene, (+) rotundone, & b- selinene, Sugenol, b- sitosterol etc.(16)  
Main Function- Pachan(Digestive)  
Ethan botanical Use- Root nodule/rhizomes after drying are grinded into powder. If taken as capsule in morning and night help cure rheumatism. Cures stone problem.  
Root is sweet smelling and is used in making agurbatti sticks .(17)

8. Dravya-Ama-haldi  
Chemical Constituent- Myercene, Ocimene, Turmerone, Linalool. Volatile oil (α-pinene, δ-camphor), α-curcumene, 1-β-curcumene, Phytosterol.(18)  
Main Function- Deepniya(Stimulant), Ruchiprad, Vrishya(Aphrodisiac)  
Ethan botanical Use- Tuber powder mixed with equal quantity of Trachyspermum ammised powder is given orally once a day for 3 days to cure rickets(19.1). It is mixed with sheep milk and then used for massage to cure nerve pain and swelling, and chronic pain.  
• In urine and blood inflammation if its half teaspoon taken along with buffaloes or cow milk. It helps cure cramp and swelling in legs. Can apply its powder alone for the above effects also.(19.2)

9. Dravya-Indravaruni  
Chemical Constituent- Carbohydrate, Protein, Separated Amino Acid, Tannins, Saponins, Flavanoids,

**Colocynthin, α-elaterin, Hentriacontane, Phytosterol.**

Main Action - **Tikshna-Virechan (Purgative)**

Ethan botanical Use - Upon ripening the pulp gets dried into grey powder. Its 50 gm powder is mixed with 250 gram ghee (Animal butter). 50gm amount if taken daily for 10-15 days has been Found useful in bone fracture.(21)

10. Dravya –Tarkari

Chemical Constitute- Root Yield clerodin, Clerodendrin A, Cerolic acid, Ceryl Alcohol, Raffinose & clerosterol. Beta-sitosterol and gamma sterol also present.

Main Action- Sothhar (Anti-inflammatory), Pandu (Anaemia).

Ethan botanical Use- Bhils apply leaf-juice on the male sex organs to cure syphilis.
- The decoction of fresh roots is also given by them orally to cure gonorrhea and to the children to cure measles.
- They also apply non-edible seed-oil to their hairs as a hair tonic.
- The Saharia and Damor tribals take about 50 gm leaves and boil them in 250 ml water till it is reduced to one-fourth. Now the decoction is filtered and little sugar is added to it before taking orally thrice a day for 2 days to cure pain of joints.(22)

11. Dravya-Varahi-kand

Chemical Constitute- Three furanoid norditerpenes diosbulbins A,B,C,D,E,F,G,H; diosbulbinosides.

Main Function- Balya (Useful in body-Strength)

Ethan botanical use- Tablet prepared by mixing one crushed Dioscorea bulbifera bulbil, a pinch of common salt, Curcuma aromatic powder and Jaggery is given once in a day for
three days to child patient suffering from typhoid.(23)

12. Dravya- Dugadhika
   Chemical Constituent- Afzelin, quercitrin and myricitrin, rutin, quercitin, euphorbin, kaempferol, gallic acid.(24)
   Main Action- Garbhkar, Stanya
   Ethical botanical Use- Root after grinding if taken cures diarrhea, bleeding and cramp in stomach.
   • Latex applied cures nerve bleeding, nerve inactiveness (sunn). Milk collected from aerial roots of Ficus bengalensis when mixed with one patasha (Kind of sugar drop) and taken for 15 days cures nightfall. Paste of whole plant when applied over sores and boils cures the affected area.(25)

13. Dravya- Adusa
   Chemical Constituent- Vasicine- leaves, roots and flowers.
   Adhatodine Anisotine Vasicoline, (Johne et al., 1971), Vasicine (Atal, 1980)
   Adhavasinone (Chowdhury and Bhattacharyya, 1987)
   Main Action- Chedan (Expectorant)
   Ethical botanical Use- Used in cough due to T.B. Its flower and Mishri are mixed to prepare Gulkand.
   Take 5-6 leaves, boil and filter. Add 2 batashe (kind of sugar drops) to it. Take before going to bed at night. (26)

14. Dravya- Madhuk
   Chemical Constituent- fruit pulp yields triterpenoids, nut shell has quercetin and dihydroquercetin, bark of the trunk contains lupeol acetate, beta- amyrin acetate.
   Main Action- Raktprasadan (Blood-Purifier)
   Ethical botanical Use- Fresh leaves are used as a bandage on muscular injury.
   • Bread prepared from corolla mixed with wheat flour is eaten with butter for weakness.
- Maize grains mixed with corolla are given to cure weakness.
- Seed oil is laxative and is also applied to itchy skin.

15. Dravya- Nirgundi
Chemical Constitute- Phenol, Dulcitol, Alkaloid-Vitricine, B-sitosterol, Camphene, a- And B- Pinenes Angoside, Acunbin, Casticin, Artemetin, Orientin etc.(27)
Main Action- Vednasthapan (Useful in Pain Management)
Ethan botanical Use- Used in joint pain and heat stroke. Its seed used in liver ailment.

Conclusion

The Mount Abu region is the most important part of the Rajasthan in area of botanically view. The climate of the area is more humid and environment conditions are quite favorable for the growth of natural vegetation. Their are near about 60 plants species which have ethano medical uses from Mount Abu region.

Tribal and rural people of these areas use these plants in their daily life practice to cure of various diseases like Malaria, Asthma, Sexual Weakness, Snake bite, Migraine, Impotency, Constipation, Gastric problem, Rheumatism, Typhoid etc as well as they use these medicines as rasayan to fit their health.

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