

Ethnobotanical uses of endemic and RET plants by Pawra tribe of Nandurbar district, Maharashtra

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The paper enumerates ethnobotanical uses of 28 plant species that are endemic and/or in the RET (Rare, Endangered and Threatened) category belonging to 15 families, by Pawra tribe of Nandurbar district. Plants are arranged alphabetically with their botanical name, followed by family, IUCN status, local names and uses. Efforts for conservation, cultivation and afforestation have been done with help of the state forest department and Pawra tribe for the sustainable use of such important plant species in near future.

Keywords: Ethnomedicine, Ethnobotany, Pawra, Maharashtra

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Nandurbar district is situated towards the north-western side in the state of Maharashtra. It is situated near the tri junction of the boundaries of Maharashtra, Madhya Pradesh and Gujarat. The study area lies between latitudes 21°14'-22°02'N and longitudes 73°59'-75°12'E in the western Satpura ranges (Fig. 1). It comprises of 4 taluka's namely, Akkalkau, Dhadgaon, Taloda and Shahada. The total area of these taluka's accounts 4755.65 km², out of which the area under reserved forest cover is 1397.08 km². Floristic of the area has been worked out¹. The forests in this region are of dry deciduous type². Pawra is the third dominant tribe of Nandurbar district. Originally, they belong to Pawagad of Gujarat and are said to be Rajputs. Their language Pawri is similar to Gujarati. Their population density is highest in Dhadgaon followed by Akkalkua and Taloda. The Shahada taluka has medium population. Pawra tribe resides in remote areas of the forests of Satpura ranges and are scattered in small villages known as Padas - a hamlet of 2-10 houses. They are mainly dependent for their livelihood on forest & agriculture produce and on medicinal plants for their primary healthcare needs. The normal diet of Pawra includes dal, roti prepared from flour of dadar (*Sorghum bicolor*, *Sorghum halepense*), makai (*Zea mays*), mordhan (*Setaria pumila*), barahi (*Panicum miliaceum*), nagli (*Eleusine*

coracana), and rice (*Oryza sativa*), which has varieties like barahi, badi, mordhan, and salvi. Vegetables are prepared from tur (*Cajanas cajan*), chawli (*Vigna unguiculata*), udid (*Vigna mungo*), harbara (*Cicer arietinum*), seeds of kadai (*Sterculia urens*), *Mucuna pruriens*, etc. They prepare pickles from amba (*Mangifera indica*), awla (*Emblica officinalis*), kakad (*Garuga pinnata*) and karwand (*Carissa congesta*). Cooking oil is obtained from til (*Sesamum oreintale*), behda (*Terminlia bellirica*), bhendi (*Abelmoschus manihot*), shengdane (*Arachis hypogea*) and seeds of ambadi (*Hibiscus cannabinus*). Pawra tribes enjoy their life by celebrating festivals and ceremonies like Olpujawa, Nilpi pujana, Duda mukai, Kakada nawai, Indal, Gulalya bazaar, Bhongrya bazaar, Holi, Dasara, etc. Pawra have the traditional knowledge to cure various diseases and ailments such as, skin diseases, scabies, rickets, paralysis, stomach problems, ulcer, fever, jaundice, diarrhea, dysentery, stroke, cough, cold, migraine, wounds, snake and scorpion bites, etc³⁻⁷.

The aim of the study was to acquire the traditional ethnomedicinal knowledge of the plants used by Pawra tribe, which is being reported for the first time from the area (Table 1). Emphasis is given mainly on the plants that are endemic (to India/Maharashtra) and/or in the RET (Rare, Endangered and Threatened) category according to IUCN (International Union for Conservation of Nature and Natural Resources). A

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Table 1 — Ethnomedicinal uses of the Endemic and RET plants of *Pawra* tribe

Plant name	Family	Local name	Endemic to	IUCN status	Uses
<i>Amorphophallus commutatus</i> (Schott) Engl.	Araceae	<i>Mogri Kand</i>	NA	Lower risk	Tuber paste is applied externally to cure scabies.
<i>Argyrea serica</i> Dalz. & Gibs.	Convolvulaceae	<i>Gavli vel</i>	India	NA	Leaves and fresh roots are eaten to enhance lactation. Seed powder and cow's milk is taken in fever. Tender leaves cooked as vegetable.
<i>Arisaema murrayi</i> (Grah.) Hook.	Araceae	<i>Khadar/Chandya Kand</i>	India	V	Tuber paste is applied externally to cure skin diseases.
<i>Barleria gibsonioides</i> Blatt	Acanthaceae	<i>Karav</i>	Maharashtra	V	Root paste is applied externally for healing of wounds.
<i>Barleria prattensis</i> Sant.	Acanthaceae	<i>Mothi Karav/Katakolsa</i>	India	V	Whole plant paste is applied externally to treat paralysis.
<i>Begonia crenata</i> Dryand.	Begoniaceae	<i>Jangli ambatchuka</i>	India	NA	Fresh leaves are consumed to reduce thirstiness in the summer season.
<i>Begonia phrixophylla</i> Blatt.	Begoniaceae	<i>Khatadya</i>	Maharashtra	Lower risk	Fresh leaves are consumed to reduce thirstiness in the summer season.
<i>Begonia trichocarpa</i> Dalz.	Begoniaceae	<i>Khatadya</i>	India	E	Fresh leaf juice is dropped in eye to cure opacity.
<i>Bosewellia serrata</i> Roxb. Ex Colebr.	Burseraceae	<i>Salai</i>	India	NA	Bark powder with honey is taken for cough while with water is taken for stomachache. Gum is burned and smoke is taken on skin to cure rickets and also used as mosquito repellent.
<i>Carvia callosa</i> (Wall.) Bremek.	Acanthaceae	<i>Bhandar</i>	India	NA	Leaves are used as feed for cattle to increase lactation*.
<i>Ceropegia oculata</i> Hook.	Asclepiadaceae	<i>Khotti</i>	India	C E	Raw tubers are given to cure child fever.
<i>Ceropegia odorata</i> Hook. F.	Asclepiadaceae	<i>Sulatya Kand</i>	India	C E	Leaves are chewed in stomachache. Tuber juice is dropped in eye to cure opacity. Tubers are used as vegetable.
<i>Ceropegia vincaefolia</i> Hook.	Asclepiadaceae	<i>Khottya</i>	Maharashtra	C E	Tubers are consumed as vegetable.
<i>Chlorophytum borivillianum</i> Sant. & Fernandez	Liliaceae	<i>Turshi</i>	India	E	Root powder with cow milk is taken daily as an aphrodisiac.
<i>Curcuma inodora</i> Blatt.	Zingiberaceae	<i>Wedi haldyo</i>	Maharashtra	V	Tuber paste prepared in oil is applied externally to relieve muscular pain.
<i>Ensete superbum</i> (Roxb.) Cheesm.	Musaceae	<i>Jangli Keli</i>	India	Lower risk	Stem and unripe fruits are consumed as vegetable. Mature stem is used to make fibre; leaves are used for serving food.
<i>Eranthemum roseum</i> (Vahl.) R.Br.	Acanthaceae	<i>Helandi</i>	India	NA	Fresh root juice is given for treating stomachache.
<i>Eulophia ochreatea</i> Lindl.	Orchidaceae	<i>Singadya Kand</i>		E	Tuber powder mixed with jaggery is taken to increase stamina.
<i>Habenaria hollandiana</i> Sant.	Orchidaceae	<i>Telya Kand</i>	India	NA	Tubers are used in black magic and rituals.
<i>Haplanthodes verticillata</i> (Roxb.) R.B.Majumdar	Acanthaceae	NA	India	Lower risk	Seed powder mixed with cow milk is given to increase stamina.

Table 1 — Ethnomedicinal uses of the Endemic and RET plants of Pawra tribe — *Contd*

Plant name	Family	Local name	Endemic to	IUCN status	Uses
<i>Hibiscus talbotii</i> (Rakshit) Paul & Nayar.	Malvaceae	<i>Majnan Phulya</i>	India	NA	Root extract is given in case of indigestion.
<i>Iphigenia magnifica</i> Ansari & Rolla Rao.	Liliaceae	NA	NA	E	Plant decoction prepared in coconut oil is dropped in ear for perforation of ear drum.
<i>Neanotis sahayadraca</i> Billore & Mudaliar.	Rubiaceae	NA	Maharashtra	NA	Leaf juice is dropped in cattle ear on snakebite*.
<i>Senecio hewrensis</i> (Dalz.) Hook. F.	Asteraceae	NA	India	NA	Roots soaked overnight in water are taken to reduce body heat.
<i>Smithia hirsute</i> Dalz.	Fabaceae	NA	India	NA	Cattle are fed with roasted leaves in <i>roti</i> for healing of wounds*.
<i>Thelepaepale ixiocephala</i> (Bth.) Bremek.	Acanthaceae	NA	India	NA	Mature wood is used for thatching of roof and house walls.
<i>Tolypanthus lagenifer</i> (Wight) van Tiegh	Loranthaceae	<i>Bandgul</i>	India	NA	Plant extract is given early morning for a week to stop the white discharge.
<i>Zingiber neesatum</i> Ramam.	Zingiberaceae	NA	India	V	Paste of the fresh tubers is applied for healing of wounds.

[E: Endangered; V: Vulnerable; CE: Critically Endangered; NA: Not available/Not applicable; *Ethnoveterinary use]

rare species is one with small population that is not presently endangered but is at risk, an endangered species is one, which is in danger of extinction throughout all or of a significant portion of its range and a threatened species is one, which is likely to become endangered in foreseeable future⁸⁻¹¹. Efforts for conservation, cultivation and afforestation of such important plants have been initiated with the help Pawra tribe and the State forest department.

Methodology

The ethnobotanical surveys were carried out during February 2000 to May 2004. Field trips were organized in different tribal villages and forest areas at regular intervals in all the three seasons. The local, efficient, knowledgeable individuals cum mediators were identified in order to understand and collect the traditional information of the medicinal plants, which are endemic and/or plants, which are in the RET category, from the traditional healers *Bhagat*. The collected data was verified and compiled after frequent visits in different areas. The plant specimens were not collected from the areas and only their photographs were taken without causing any damage to the plants. The identification was done and the acquired information was cross checked with available literature¹²⁻¹⁷.

Results

Pawra tribe has been using 360 different plants to cure various ailments and diseases, from which only

the ethnomedicinal and ethnobotanical uses of the 28 plants, endemic and/or in the RET category have been enumerated (Figs 2-8). The plants are arranged alphabetically with their botanical name, family, RET category, endemic status, local names and uses.

Discussion

Efforts were made for creating awareness among Pawra tribe by organizing seminars, group discussions and field visits for promoting conservation of such endemic and/or RET plants with the help of Forest Department. Some of Pawra's were trained for proper cultivation of some important endangered plant species such as *Ceropegia occulata* Hook., *Ceropegia odorata* Hook. f., *Ceropegia vincaefolia* Hook., *Eulopia ochreatea* Lindl., etc. to give them an additional source of income. The priority list of the plants was prepared to develop nursery according to the local availability of planting material. Medicinal value of the plants was discussed based on their exploitation in the local trade and market. After training them methods of cultivation, they were demonstrated non destructive methods of harvesting and also packaging so as to maintain the potency of the medicinal value and increase the durability of the harvest. This will lead to prevent the species from total extinction from the area and provoke their sustainable use in traditional medicine by Pawra tribe in near future.



Fig. 1 Location map of study area



Fig. 2 *Arisaema murrayi*



Fig.3 *Ceropegia odorata*



Fig. 4 *Ceropegia occulata*



Fig. 5 *Ceropegia occulata*



Fig. 6 *Ceropegia vincaefolia*



Fig. 7 *Barleria gibsonioides*



Fig. 8 *Hibiscus falbottii*

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