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Ethno-medicinal Plant Resources of Jabalpur District (Madhya Pradesh)

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ABSTRACT

Common plants used by the indigenous people of Jabalpur district for medicinal purposes were catalogued based on collections during field trips and visits to traditional medicine practitioners in these parts, and questionnaires administered to resident knowledgeable respondents. These plants were briefly described and their local names provided where possible while the medicinal uses and parts used were listed. Faced with rapid depletion and the current focus on cheaper alternatives to synthetic drugs, the need to document these plant resources and explore short and long term strategies of conserving them were highlighted.

INTRODUCTION

The need to study medicinal plants, according to (WHO 1978) cannot be overemphasized for a vista of reasons including *inter alia* widespread use of plants in folk medicine, rescuing traditional medicinal plants and knowledge about them from imminent loss as well as the need for health for all. he world's tropical rain forests are especially rich in biodiversity but there is rapid depletion of this natural resource world wide, and in Nigeria in particular, the pressures from degradation, unsustainable arable land use, urbanization and industrialization (Obute and Osuji, 2002) are taking their toll as well. As defined by WHO, traditional medicine is the sum total of all knowledge and practical application, whether explicable or not used in diagnosis, prevention, and elimination of physical, mental or social imbalance; and relying

exclusively on practice and experience and observations handed down from generation to generation, whether verbally or in writing.

Medicinal plants are generally scattered in various families of angiosperms, gymnosperms, pteridophytes, bryophytes and thallophytes. It has been observed that traditional medicine practitioners tend to hide the identity of plants used for different ailments largely for fear of lack of patronage should the sufferer learn to cure himself. In order to mystify their trade, cultivation of the plants is not encouraged, thus all the collections are virtually from the wild. With the passing away of most of these practitioners along with their wealth of knowledge, a huge loss is made in the body of knowledge dealing with plants that heal. Often the discerning ones try to relate this important information to a few close relatives where any interest is shown. This mode of information transfer is, however, grossly inadequate in that it lacks continuity. We have aimed, in this study, to document information on the common plant genetic resources employed in the ethnomedicinal practice of the indigenous people of the southeastern Nigeria, and to explore ways of sensitizing genuine conservation efforts in the face of the genetic erosion threat posed to these resources.

MATERIAL AND METHODS

Field trips were embarked upon to various traditional healing homes and popular herbalists followed with direct collections from the wild at the local government. The herbalists, though not forthcoming with information about their trade, were motivated with cash reward for the services rendered. The collected samples from the plant materials they indicated were used for curing of disease. Some literate ones were administered with questionnaires detailing the various cures and plants used as related orally by the illiterate ones. Literature on medicinal plants was searched to corroborate the claims by the healers.

Table 1: A catalogue of some medicinal plants and ethnomedicinal uses among the Jabalpur District people

S/N	Name	Family	Botanical description	Habitat/ source	Medicinal use
1.	*Acanthus montanus* (Nees) T. Anders	Acanthaceae	Perennial about 1.40m high, body covered with tiny thorns, leaves dentately lobed with thorny margin and opposite in arrangement.	T / W	Antitussive, leaf decoction used to treat chesty coughs and boils.
2.	*Afromomum melegueta*	Zingiberaceae	Perennial herb of about 3ft, with narrow leaves, fruits ovate with red-brown irregular seeds that strongly aromatic and pungent to taste.	T / W or C	Stimulant/diuretic crushed seeds mixed with crushed bitter kola and water extract of bitter leaf all mixed with proper amount of water is used to treat diabetes. Whole fruit eaten along with two moderately sized ginger cures beri beri. 1 whole pepper added to 3 seeds of ripe papaw, dried locus bean all ground to make soup is a remedy for female infertility.
3.	*Ageratum conyzoides* Linn.	Asteraceae	Annual herb 30 – 80cm tall, with opposite leaves with dentate margin and stem covered with fine white hairs.	W	An infusion is used a purgative. Sap squeezed from the leaves is used to treat wounds and eye problems.
4.	*Anarcadium occidentale* Linn.	Anarcadiaceae	A spreading evergreen tree of height up to 12m, often producing aromatic gum, leaves 20cm x 30cm, yellowish-pink flowers, fruit thick pear-shaped pulpy and red or yellow when ripe with a hard rusty green kidney-shaped nut at the tip.	T / W, C	1 – 2 drops of a tincture applied 4 – 5 times a day treats ringworm infection. The bark and leaves used as diuretic.
5.	*Alstonia boonei* DeWild.	Apocynaceae	A large tree of up to 30m and 3m in girth with brown bark yielding copious latex when slashed, Leaves obovate, flowers yellowish white fruit up to 60cm, pendulous.	W	Local application as analgesic for rheumatic pains, bark is boiled with garlic and lime and taken 1 glass 3x daily. Juice extract mixed with lime and a tinge of salt is used to treat mouth odour.

6.	*Azadirachta indica* A. Jussieu.	Meliaceae	An evergreen tree of up to10 – 11m tall, leaves divided into leaflets, flowers small and white fruit green or yellow 1.5 – 2cm long. Bark usually cracked up.	C	Drinking or bathing with leaf decoction or infusion is a remedy for chicken pox and small pox, Boiling leaves with lemon grass treats malaria, used as a vermifuge, remedy for ulcers and wounds. Juice squeezed from leaves with a little water is used as an eye drop but if mixed with pure honey is good for ear ailments. Twig chewed as a relief for toothache.
7.	*Carica papaya* L.	Caricaceae	Herbaceous dioecious plant of up to 6m high, leaves bone on long petioles and palmate in shape. Usually branched, the female often bears the fruits that are green and turn orange- yellow when ripe.	T / W, C	Unripe fruit mixed with garlic and fermented for 3 days is used as a diuretic. Chewing a handful of seeds morning and evening and ad decoction of unripe papaw with unripe pineapple, lime, 10cm long sugar cane piece, 6 bags of Lipton tea in 4 liters of water has antimalarial effects. Sap from unripe fruit or trunk is used to treat eczema, razor bumps and nematode infestations.
8.	*Chromolaena odorata* (Linn) R. M. King & Robinson	Asteraceae	A perennial shrub with simple leaves oppositely arranged, Inflorescence is a corymb with pale blue flowers and whitish or mauve florets; stem scrambling and dichotomously branched often giving off a characteristic smell.	T / W	Mashed leaf water extract used for stomach upset, sap from leaves used to treat wounds.
9.	*Citrus aurantifolia* (Christm) Swing.	Rutaceae	Profusely branched small evergreen tree about 1.5 – 5m tall; thorny stem, ovate leaves, yellowish-white flowers fruit aromatic, small pungently acidic.	T / C	Local application with honey to cure catarrh, juice used to treat stomachache and feverish conditions.
10.	*Citrus limon* (L.)	Rutaceae	Perennial tree growing up to 3m tall. Leaves lanceolate or elliptical,	T / C	Infusion of the rind prepared in alcohol is used for digestive disorders,

	Burm. f.		and toothed; flowers white fruit with thick rind dull yellow to orange when ripe.		juice used to treat diarrhea, ulcers, excessive weight gain. Diluted juice used to treat spots, scabs, wounds scars and insect bites.
11.	*Corchorus olitorius* L.	Tiliaceae	A glabrous herb often woody at the base; leaves lanceolate to ovate-lanceolate simple, stem light green in colour, flowers yellow, fruits pods	T / W, C	Leaves pounded with rubber leaves and mixed with a little water then filtered is taken to remedy irregular menstrual flow in women. Leaf extracts by boiling is used for treating fevers.
13.	*Cymbopogon citratus* (DC.) Stapf.	Poaceae	A perennial grass about 2m tall, rarely flowers lower leaf sheaths with a characteristic waxy bloom, mildly scented when cut.	C	Used as an astringent, diuretic and antiseptic. The leaf is boiled in 2 L of water for 30 – 40 minutes with 25 whole limes, 2 grape fruits, 2 unripe papaw fruits, and 2 unripe pineapples, cut garlic and the bark of *Alstonia boonei* and used to treat typhoid fever.
14.	*Diodia scandens* Sw	Rubiaceae	A straggling herb with slender angular stem up to 3m high, leaves scabrid, opposite ovate to ovate-lanceolate, flowers white clustered in the axils, the fruit is an ovoid capsule.	W	Used with *Napoleona imperialis* as a vermifuge for children; an infusion of the same combination used for pregnant women and afterbirth treatment to clear the womb.
15.	*Ricinus communis* L.	Euphorbiaceae	A glabrous shrub of about 9 - 12m high, reddish-green fruits that turn dark when mature. The fruit is a 3–seeded capsule with spines. Leaves are palmate	T / W, C	5-10g and15 – 30g of oil used as a purgative for children and adults respectively. External application of oil is used to treat skin infections.
16.	*Elaeis guineeensis* Jacq.	Arecaceae	A tall branchless tree with huge pinnate leaves that are spiny at the base, flowers inconspicuous and borne on pistillate and staminate inflorescences. Occurs mostly in secondary forests.	T / W, C	Oil from the seeds is administered as an antidote for poisons. Oil from the kernel used to treat several skin ailments and convulsion in children. Unripe kernel is believed to prevent fibroids when at least 25 – 30 nuts are chewed every day for 12 weeks.
17.	*Eleusine*	Poaceae	An erect annual tufted	T / W	Used as an anti-

	indica (Linn) Gaertn.		grass that grows up to 60cm. Leaves slightly hairy bears seeds in spikes.		inflammatory, and for convulsion in children.
18.	*Emilia sonchifolia* (Linn.) DC	Asteraceae	A bushy annual herb with glaucous sparingly pubescent stems and leaves; inflorescence is an erect head with mauve or creamy white florets.	W	Fluid fro squeezed leaves used to treat wounds because it contains coagulant factors
19.	*Euphorbia hirta* Linn.	Euphorbiaceae	An erect or decumbent herb up to 45cm in height. Leaves are opposite narrowly – ovate and finely toothed. Stem often covered with purplish – brown hairs. Inflorescence is a dense axillary head with small pinkish flowers; fruit s a 3-chambered capsule containing reddish-brown seeds.	T / W	Leaves used to treat asthma and catarrh, external application for treatment of eczema. Speculated to be a cure for aids since it stimulates the immune system.
20.	*Garcinia Kola* Heckel	Guttiferae	Evergreen tree of up to 33m tall, thick slash and grayish- brown bark and buttressed trunk. Leaves opposite with pale midribs. Greenish-white flowers and orange-coloured fruit, carrying brown seeds embedded in pulp.	T /W	Seeds are chewed to treat bronchitis and throat infections. An infusion of the root with a little salt is a remedy for asthma.
21.	*Harungana madaga-scariensis*	Hypericaceae	A shrub or small tree with numerous tiny flowers and oppositely arranged ovate or rounded leaves up 10 x 20cm with prominent lateral nerves beneath.	T /W	Gummy sap is applied locally to treat skin diseases like itches and leprous spots.
22.	*Mangifera Indica* Linn.	Anarcadiaceae	Large tree up to 30m high, simple alternately arranged. Young leaves are wine coloured but later turn green. Inflorescence is a panicle with inconspicuous cream flowers: fruit is a drupe with fibrous edible mesocarp. Stem	T / W, C	Boiling of leaves in water and drinking the resultant solution is a cure for malaria; Bark is soaked for 24huors and the water extract is used, along with bathing with this 3x a day, to treat typhoid fever.

			produces a gum when cut.		
23.	*Manihot esculenta* Crantz	Euphorbiaceae	A perennial shrub growing up to 1 – 3m tall or more with erect knobby leaf scars. The palmately compound leaves tend to crowd around the top while lower ones are shed. The flowers are small and cream coloured and bone as axillary racemes.	T/ C	Premature roots are used to treat eye problems.
24.	*Napoleona Imperialis* P.Beauv.	Lecythidaceae	A tree or shrub seldom grows above 6m with large leaves. Flower are showy and of variable colours but usually cream.	T / W	An infusion of the leaves is used to dissolve clotted blood in freshly delivered women; but used as a vermifuge for children. Stem is used to cure gonorrhea while the roots are used to fevers.
25.	*Newbouldia Laevis* (Beauv.) Seeman ex Bureau	Bignoniaceae	A tree of secondary forests grows up to 12m with nearly erect mode of branching. Leaves compound leathery broadly elliptic. Flowers purplish-pink, the fruit is a capsule that splits in half to release winged seeds.	T / W, C	Leaves are squeezed and the extract use to treat eye problems. Roots, barks and leaves are used during childbirth, constipation and on septic wounds.
26.	*Ocimum gratissimum* L.	Labiateae	A shrub of about 50 – 80cm tall, leaves are ovate, serrate and opposite in arrangement. Flowers are white in colour.	T / C	A glass of leaf extract taken before a meal is a remedy for constipation as well as worms in the GIT. As treatment for diabetes mellitus, the same amount of *O. gratissimum* leaves and mistletoe *Viscum album* in water taken a glass 3x daily until the symptoms disappear.
27	*Palisota hirsuta (*Thumb.*)*	Commelinaceae	An herb of regrowth areas that grows up to 3 – 4 m high. The leaves are in rosette usually at the tip of the axis;	T / W	Leaves and stem are used in treating rheumatism arthritis if taken as an infusion.

	K. Schum.		flowers are white to purplish, fruits are glossy black in colour.		
28.	*Gangronema latifolium* Benth.	Asclepiadaceae	Climbing shrub with ovate to ovate-rotundate leaves; flowers occur as racemes arranged in follicles along the branches of inflorescence.	T / W, C	Used for cleansing the womb after childbirth, the leaves are ground or chewed raw to treat stubborn cough and also taken to treat running stomach.
29.	*Piper nigrum* Schum. & Thonn.	Piperaceae	A climber growing up to 30 – 40ft high on trees, racemous flowers produce red fruits that turn brown later, leaves are cordate and alternately arranged.	W	Used to stabilize the womb in women after birth.
30	*Psidium guajava* Linn.	Myrtaceae	This is shrubby tree with smooth but flecking bark with simple entire oppositely arranged leaves; flowers are white and several shades of colurs of pulps are formed in the fruits. Usually yield numerous seeds.	T / C	Leaves are soaked in salt water washed and squeezed and product made up with fresh water to give a greenish liquid that is taken one glass 2x daily for one week to increase blood level. A decoction of 50g of the leaves and bark of the root is made in one liter of water and taken a glass every 4 hours to cure diarrhea and dysentery.
31.	*Sida acuta* Burm. f.	Malvaceae	An erect branched small perennial herb with hairy woody stem. Leaves are lanceolate, alternate and toothed at the margins.	T / W	The stem is used to treat malaria.
32.	*Telfairia occidentalis* Hook. f.	Cucurbitaceae	This is a perennial herb that creeps. Leaves are palmately lobed and fruits are ridged deeply and very large typical of the gourd family.	T / C	Leaves are squeezed in water and taken to treat dizziness and anaemia. Roots are potent poisons.

33.	*Vernonia amygdalina* Del.	Asteraceae	A small shrub with silvery stem and leaves with a characteristic bitter taste. Inflorescence is a capitulum producing dirty white flowers. It is vegetatively propagated.	T / C	Squeezing the leaves and mixing the product with palm wine and rubbing the body down together with drinking a glass daily cures measles, small pox and chicken pox. If mixed with lime and orange juice and taken for a fortnight is a cure for pile. Root epidermis is used to treat diarrhea. The sap from the leaf is an antifungal agent.

T = terrestrial, W = wild and C = cultivated.

DISCUSSION

The results of this study show that more medicinal plants are sourced from the wild than are cultivated regardless of how medicinally important they are to the people. For those that are cultivated the extent is still rudimentary as no large-scale production is involved. Even less still is the proportion of these plants obtained from the wild and also cultivated. Obviously this tells a story of how these plant genetic resources are managed unsustainably in this part of the world. As many young people get more out of the countryside for life in the urban centers even the meager cultivation is further threatened with further neglect just as the wild-sourced ones are faced with threats of gene eroding anthropogenic activities and environmental degradation. Unfortunately, little or no conservation strategies are in place to safeguard these plants.

The results further highlight the need to harmonize traditional medicine practice with the orthodox practice rather than the disdain with which the later considers the former, in this part of the globe. This is obvious in the face of not only in the interdependence of the two but also for the fact that a greater number of people have it as their only available healthcare service as the orthodox is far removed from them. Furthermore, the traditional approach often treats some ailments that have defiled

modern medical practice. Apart from direct traditional utility of these genetic resources allopathic medicine is now taking recourse to traditional medicines because of its cheapness and availability to a greater percent of the world's population. It is hoped that further research will be generated from this effort as done elsewhere like China and India where modern medicine is viewed as complimentary to traditional medicine and the poor are better of in accessing health care. All the people of area have their rich traditional or folk medicine that needs to be properly organized and formerly integrated into the regular healthcare delivery system.

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