Less Known Ethnomedicinal Uses of Some Orchids by the Tribal inhabitants of Amarkantak Plateau, Madhya Pradesh, India

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Abstract: The present paper deals with the less known ethnomedicinal uses of 15 species of orchids belonging to 11 genera, consisting of 6 epiphytes and 9 terrestrials, which are used by the tribal inhabitants of Amarkantak Plateau, Madhya Pradesh, India. The study reveals that tubers are most frequently used (7 species), followed by roots (6 species) and leaves (3 species) for the treatment of 14 different kinds of ailments/diseases. This paper also discusses about threats to the orchids of this region, as well as some very serious problems relating to their conservation. [Tiwari AP, Joshi B, Ansari AA. **Less Known Ethnomedicinal Uses of Some Orchids by the Tribal inhabitants of Amarkantak Plateau, Madhya Pradesh, India.** *Nat Sci* 2012;10(12):33-37]. (ISSN: 1545-0740). http://www.sciencepub.net/nature. 6

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1. Introduction

Orchids are herbaceous plants that are classified on their name in the family, the Orchidaceae. In many Asian countries, orchids are used as traditional drugs since time immemorial. The roots, tubers, stems, leaves or the whole plants have been used as medicines known to possess antibiotic, antimalarial, rejuvenating and many other properties. The medicinal importance of orchids was known in India since Vedic period and there are important references to orchids as medicine in ancient Sanskrit literature like 'Nighantus' and 'Amarakosha' by Sushruta and Bhagabata respectively (300-250 BC). Recently, it has been reported that orchid molecules are important in reducing fevers, serving as anti-impotence aids, increasing the white blood cell count, curing eye diseases, treating fatigue & headaches and most importantly functioning as anti-cancer agents (Bulpitt, 2005). Besides, orchids constitute an order of royality in the world as ornamental plants of immense horticultural value and play a beneficial role in nature to balance the forest ecosystem**.**

Mishra, 1956, 1990; Saxena, 1970; Dubey *et al*., 2007; Shukla & Singh, 2007; Singh *et al*., 2010 and Shukla & Singh, 2012 made floristic studies of the area, where as ethnobotanical investigation have been made chiefly on ethnomedicinal uses of plants other than orchids by workers like Brij Lal & Dubey, 1992; Sikarwar, 1994; Tiwari, 1998; Kumar *et al.,* 2004; Singh *et al*., 2005; Bondya *et al.*, 2006; Shukla *et al.,* 2007; Bondya *et al.*, 2009; Sahu, 2010; Singh *et al.*, 2011; Srivastava *et al*., 2012 and Kapale, 2012. No separate study on ethnomedicinal uses of orchids of the area has so far been made as per scrutiny of recent literature and internet searching. Bearing in mind the multifaceted importance of orchids, the majority of the surveys that have been conducted of this group have focused on species that have been earlier used medicinally. In the present paper an attempt has been made to collect informations on ethnomedicinal importance of some orchids traditionally used by the tribes of Amarkantak Plateau, Madhya Pradesh, India, which are less known and not mentioned in literature.

2. Study Area

Amarkantak Plateau is one of the important religious and sacred places of Madhya Pradesh, India from where some important rivers like Narmada, Son, Johila and Mahanadi originate. Its total geographical area is about 100 sq km with an average altitude ranging between 800-1100 m above sea level. The area is located between 22^0 41' north latitude and 81^0 46' east longitude (Fig. 1). The vegetation of the plateau is of subtropical type dominated mainly by sal trees. The soil is usually lateritic. The climate is monsoonic type with well defined summer, rainy and winter seasons. The average rainfall is over 1900 mm. The entire area is inhabited by a large section of rural population and different tribes. The most important tribes are Baiga, Gond, Agaria and Panika. The density of Baiga population is higher than others. These tribal people usually live amidst or near the forests and exploit the plant resources for their day-to-day requirements. The collection of plants and their products from the forests and nearby area are the main source of their livelihood.

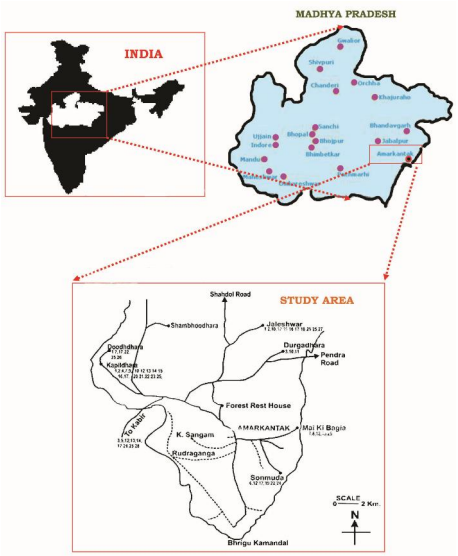

Fig. 1. Location map of Amarkantak Plateau

3. Material and Methods

Intensive surveys and field visits were undertaken for gathering information on ethnomedicinal uses of orchids in Amarkantak Plateau covering 6 tribal localities viz. Amadob, Mai ki bagia, Kapildhara, Sambhudhara, Sonmunda and Kabir chabutra during 2009-2010. Interviews of the local tribal people, especially older persons, local medicine men and herbalists were taken for recording local plant names, usable plant parts, preparation method for medicine, application mode, dosage, etc. As far as possible, the data were verified by a cross checking method amongst these ethnic groups and local people to confirm the authenticity of the information provided by the inhabtants of the study area. Observations were also made during field visit in the aforementioned respects.

The specimens were provisionally identified on the spot and later confirmed using the Flora of Madhya Pradesh (Singh *et al*., 2001) and with the help of herbarium specimens housed in BSA. Our data were checked against such important and authentic literature as Kirtikar & Basu, 1935; Anonymous 1948-76; Chopra *et al*., 1956; Jain, 1968; Ambasta, 1986; Satyavati *et al*., 1987; Warrier *et al*., 1995 and Jain & Mudgal, 1999. The information thus given in the present work, therefore, will be new and less known which were previously not reported by earlier researchers.

3. Enumeration

The plants are enumerated alphabetically in table 1. The details include local name in capital latters in inverted comma, locality, nature of diseases, parts used and mode of administration, etc.

Table – 1: Enumeration of orchids with botanical names and others details

Botanical name / Local name	Locality	Nature of diseases	Parts used	Mode of administration
Acampe praemorsa (Roxb.) Blatter & Mc Cann / "MARVA"	Sonmunda	Cough	Roots	Decoction of the fresh root is cooled and stored. 5ml of honey alongwith 2 spoonful of decoction is taken orally twice a day for 5 days for full cure.
Dendrobium herbaceum Lindl. / "AGAI" **(Plate – 1)**	Sonmunda	Skin diseases	Roots	Fresh roots are burnt and 10 g of the resultant ash is mixed with 10 ml mustard oil and applied on the affected portion 2 to 3 times daily for several days till it disappears.
Eulophia herbacea Lindl. / "BILAIKAND" **(Plate – 1)**	Shanbhudhara	Rheumatism	Tubers	Dried tubers are made into powder. 50 g of the powder is mixed with 10 ml honey and given orally and also applied on affected joints twice a day for 15 days.
Eulophia nuda Lindl. / "AMARKAND"	Kapildhara	Tumour	Tubers	100 gm of fresh tubers are crushed and made into paste with 100 g young shoots of *Solanum nigrum* L. and applied twice in a day for 5 days.
Geodorum densiflorum (Lam.) Schlechter / "BILAIKAND"	Kabir Chabutra	Impotency in men	Tubers	Dried tubers are made into powder. 5 gm of the powder mixed with 200 ml cow milk is given orally twice a day for 15 days or till it is cured.
Habenaria commelinifolia (Roxb.) Wall. *ex* Lindl. / "VANPYAZI"	Sonmunda, Kapildhara	Leucorrhoea	Tubers	Dried tubers are made into powder. 5 gm of the powder is mixed with one tea spoon full of sugar candy and taken orally twice a day for 15 days.

Habenaria marginata Colebr. / "VANPYAZI"	Amadob	Mental deficiency	Tubers	Tubers are washed, dried and dipped in cow's ghee for 10 days. Afterwards one tuber is taken orally for 15 days along with one glass cow milk.
Habenaria plantaginea Lindl. / "JHULUKIA"	Amadob	Menstrual cycle	Tubers	100 gm of fresh tubers and equal quantity of *Saraca asoca* (Roxb.) de Wilde boiled in one liter water till volume is reduced to 100 ml. The decoction mixed with 5 ml honey is taken orally twice a day in empty stomach for 15 days.
Nervilia aragoana Gaud. / "VAN-SIGHADA" **(Plate – 1)**	Shambhudhara	Blood dysentry	Roots	About 3-4 g fresh roots made into paste and mixed with 5ml honey and taken orally twice a day for 5 days.
Oberonia falconeri Hook. *f.* / "BANDA"	Kapildhara	Bone fracture	Leaves	Fresh leaves are crushed and externally applied with thick coating all around the fractured portion and tied with clean cloth or bandage for few days.
Peristylus plantagineus (Lindl.) Lindl. / "KACHARI"	Sonmunda	Cough	Tubers	The tubers are dried and made into powder. 5g of the powder mixed with one tea spoon full honey is taken twice daily for 3 days.
Rhynchostylis retusa (L.) Blume / "BAND" **(Plate – 1)**	Shambhudhara	Malarial fever	Roots	Decoction of the fresh roots are made and stored. 5g paste of young shoot of *Andrographis paniculata* (Burm. *f.*) Wall. *ex* Nees alongwith 100 ml of this decotion is taken orally twice a day for 5 days day till it is cured.
Vanda tessellata (Roxb.) Hook. *ex* G. Don / "BANDA" **(Plate – 1)**	Mai ki bagia	Inflamation	Roots / Leaves	Juice of fresh leaf (10 ml) is administered orally twice daily for the treatment of fever. The roots and leaves are made into paste and applied externally on the inflamation.
Vanda testacea (Lindl.) Rchb. *f.* / "BANDA"	Kapildhara	Cuts and wounds	Leaves	The leaf paste is applied on the affected portion for immediate relief.
Zeuxine strateumatica (L.) Schlechter / "PILJARI"	Kapildhara	Fever	Roots	200 g roots are made into paste, mixed with 5ml honey and divided into ten doses. Each dose is taken empty stomach daily for 10 days.

Plate - 1. *Eulophia herbacea* Lindl.; **2.** *Dendrobium herbaceum* Lindl.; **3.** *Nervilia aragoana* Gaud.; **4.** *Rhynchostylis retusa* (L.) Blume; **5.** *Vanda tessellata* (Roxb.) Hook. *ex* G. Do

4. Discussions and Conclusion

The present investigation deals with the 15 species of orchids belonging to 11 genera consisting of 6 epiphytes and 9 terrestrials, which are used by the tribal inhabitants of Amarkantak Plateau, Madhya Pradesh, India. The study reveals that tubers are most frequently used (7 species), followed by roots (6 species) and leaves (03 species) for the treatment of various ailments like cough, skin disease, rheumatism, tumors, impotency, leucorrhoea, mental deficiency, menstrual cycle, blood dysentery, bone fracture, fever, inflamation, cuts and wounds and fever. It is intresting note that *Eulophia herbacea* Lindl. have been categorized as endangered species in the Amarkantak region (Dubey *et al*., 2007).

Many species of orchids having helpful phyto-constituents, are currently being used as drugs in the Indian system of medicine. Being members of a highly advanced family, orchids have a major role to play in the genetic engineering of new forms that may be useful in floriculture, pharmacology and other, as yet unexplored fields of science. Presently, the Amarkantak Plateau is attracting the interest of scientific communities due to their unique biodiversity. But, the habitats of the orchids of the region are presently under threats of upcoming mining activities, over exploitation of orchids for medicinal purposes, etc. Forest fires, tree felling for timber and feulwood and lopping of branches for fodder add to the problems relating to their conservation.

An attempt is thesefore made to bring to light the less known or new ethnomedicinal uses of orchids. These are recommended for further phytochemical and pharmacological tests on these potential resources. The ethnic data will provide an insight for further research in pharmacology. The wild populations of these species are restricted in distribution and are not sufficient to meet the demand in drug industry. Hence propagation through tissue culture is recommended for multiplication and conservation of these wild medicinal orchids.

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