

## ***Uraria picta* Desv: A threatened medicinal plant of india, reported from mandosaur district, madhya pradesh**

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### **ABSTRACT**

Medicinal plants are nature's gift to mankind and are rich ancient heritage of India. In India, several medical systems have evolved and prominent among these systems are Ayurveda, Siddha and the Unani Systems of Medicine. Extinction and species introduction are two major biodiversity crises of the current millennium. A species may become endangered and eventually extinct when death rate exceeds birth for a prolonged duration. *Uraria picta* is annual herb, stem woody at maturity, and it covered with scarce modified fine, short, straight and hooked hairs. Plant body is erect, height ranging from 0.5 to 2.0 m. Leaves are dimorphic, young leaves are simple and at maturity they are odd-pinnately compound covered with the hairs as present of stem. Inflorescence is of raceme type. Racemes are terminal and elongated upto 1.5 feet. *Uraria picta* is reported in mandosaur district of Madhya Pradesh State which is categorized under threatened (rare) plant species.

**Keywords:** Annual Herb, Extinction, Medicinal Plants, Threatened, *Uraria picta*

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## **INTRODUCTION**

Plants, which have one or more of its parts having substances that can be used for treatment of diseases, are called medicinal plants (Sofowora, 1982). Medicines derived from plants are widely famous due to their safety, easy availability and low cost (Iwu et al., 1999). The medicinal value of these plants lies in bioactive phytochemical constituents that produce definite physiological action on the human body (Hill, 1952). Rig Vedas and Ayurvedas are the main source of Indian medicines. They are mainly based on the use of drugs of plant origin. The Ayurvedic system of medicine is mainly credited to Charaka (WHO, 2001) and Sushruta (Kunja Lal, B.M, 1912) who described about 700 medicinal plants. Thousands of years effort, by examination much has thought him to differentiate between useful and harmful plants. Since then herbs have been used in all cultures as an important source of medicine (Baquar, 1995).

Medicinal plants are nature's gift to mankind and are rich ancient heritage of India. In India, several medical systems have evolved and prominent among these systems are Ayurveda, Siddha and the Unani Systems of Medicine. In different civilizations the contribution of floral biodiversity to health care has been well documented (Posey, 1999). More than 50000 species are used for medicinal purposes worldwide, of which almost 13% are flowering plants (Schippmann et al., 2002). Over 8000 plant species are used in traditional and modern medicine in India (Planning Commission 2000), and 90-95% collection of medicinal plants is from the wild, of which more than 70% collection involves destructive and unscientific extraction. In India, it is reported that traditional healers use 2500 plant species and 100 species of plants serves as regular sources of medicine. In India, more than 7500 plant species are being used in various alternative medicinal systems (Mukherjee & Wahile, 2006). Recently, the interest in the use of herbal preparations has grown dramatically throughout the world (Patwardhan et al., 2003). The World Health Organization (WHO, 2002) estimated that 80% of the populations rely on traditional medicines, mostly plant drugs, for their primary health care needs in developing countries.

*Uraria picta* is annual herb, stem woody at maturity, and it covered with scarce modified fine, short, straight and hooked hairs. Plant body is erect, height ranging from 0.5 to 2.0 m. Leaves are dimorphic, young leaves are simple and at maturity they are odd-pinnately compound covered with the hairs as present of stem. Inflorescence is of raceme type. Racemes are terminal and elongated upto 1.5 feet. The flowers are small, present in large number (35-75) on dense spike. The inflorescence axis is pink, purple or pale lead in colour. Flowers are purple, pink or bluish in colour. Flowers are bracteate, bracts persistent at the base and apex. Calyx is four mm long; teeth plumose much longer than the short tube. Corolla papilionaceous, sepals are 4-5 mm long. Pods are segmented with 3-6 segments, each 2-3 mm broad and 5-9 mm long, smooth, polished, folded on one another (Hutchinson & Dalziel, 1958; Bhattacharya & Datta, 2010). Pods contain 2-6 seed and segments are nearly separated (Waghire et al., 2011). Flowering and fruiting time in the month of august to november.

*U. picta* is commonly found in dry grasslands, growing densely and producing poorly viable seeds and it also extends up to 300 m in the tarai region of the Himalayas (Ayush, 2008). *U. picta* is a widespread species found in tropical Africa, South and South East Asia and Australia. *U. picta* is a local of tropical zone Including Nepal, Srilanka, Northern Australia, China, and Burma. This herb which grows up to 1.5 meters tall originates in dry grassland, and open deciduous forests and in all plains of India extending from Himalayas to Ceylon, Malaysia and Philippines (Gurav et al., 2008). *Uraria picta* consists of different phytoconstituents present in different extracts exhibit a number of biological profiles and guard from most of the chronic diseases (Sagwan et al., 2010; Rajurkar and Gaikwad, 2012).

*Uraria picta* is an important medicinal plant, not only in traditional medical system but also in ayurveda and as well as in allopathic system of medicine. It is the most important ingredients among the ten herbs used for ayurvedic formulation called as Dashmula (Khare, 2007). The herb is traditionally used as an antipyretic, diuretic, astringent (used for irritable bowel syndrome, diarrhea, and dysentery) against colds, diuretics, anthelmintics, laxatives, and tonic nerves (Mane et al., 2021). As in China, where *U. picta* is used as a popular remedy, it is mainly used to treat fever, neutralize toxins, relieve pain, stimulate blood circulation, relieve cough, and improve breathing (Xueqin et al., 2011). Root paste of this plant is applied on Snake bite (Sainkhediya and Ray, 2014). The tribal communities of Chitrakoot, Madhya Pradesh used this plant, they used leaf paste for cut and wound twice a

day (Sikarwar et al, 2008). As well as the tribals of Purulia district, West Bengal, India also used this plant for the same (Chakraborty and Bhattacharjee, 2006). Plant parts used for the treatment of fever (Mishra, 2009). This plant shows Anti-inflammatory activity (Singh, 2017), Hepatoprotective effects (Singh, 2017), Antimicrobial efficacy (Osazuwa and Igboechi, 1988), Antioxidant activity (Patel et al., 2011), Fracture healing activity (Prasad et al., 1965) and in the treatment of Alzheimer's disease (Odubanjo et al., 2013).

Diversity of medicinal plant is continuously under the threat of extinction as a result of over-exploitation, incorrect harvesting techniques and unregulated trade of medicinal plants (Pramod Patil, 2013). India is one of the 12 mega biodiversity centers of the world. It has been accepted that indigenous medicines are more economical and more acceptable. Medicinal plants are the "backbone" of traditional medicine, which means more than 3.3 billion people in the less developed countries utilize medicinal plants on a regular basis (Davidson, 2000). There are nearly 2000 ethnic groups in the world, and almost every group has its own traditional medical knowledge and experiences (Liu et al., 2009; Kebriaee-zadeh, 2003). Over exploitation of trade species, destructive way of collection, vulnerability due to anthropogenic pressure are some of the major threats to medicinal plants. Conservation and sustainable use of medicinal plants are issues on which immediate focus is required in the context of conserving biodiversity.

## **MATERIALS AND METHODS**

### **The Study Area**

Mandsaur district is situated in the central part of Agro Climate Zone-4 of Malwa plateau which is located in the west central part of India and covering the western part of Madhya Pradesh and south eastern part of Rajasthan. It is one of the important tribal districts of Malwa regions. It lies between the parallel of latitude 23°45'50" North and 25°2'55" North and between the meridians of longitude 74°42'30" East and 75°50'20" East and spread over an area of 5521 sq. km. This district comes under the tropical dry deciduous forests (Champion and Seth, 1968). Such types of forest are rich with economically important and medicinal plants with rich values (Champion & Seth, 1968). Maximum diversity of plant species found in the tropical and sub-tropical forest type (WCMC 1992).

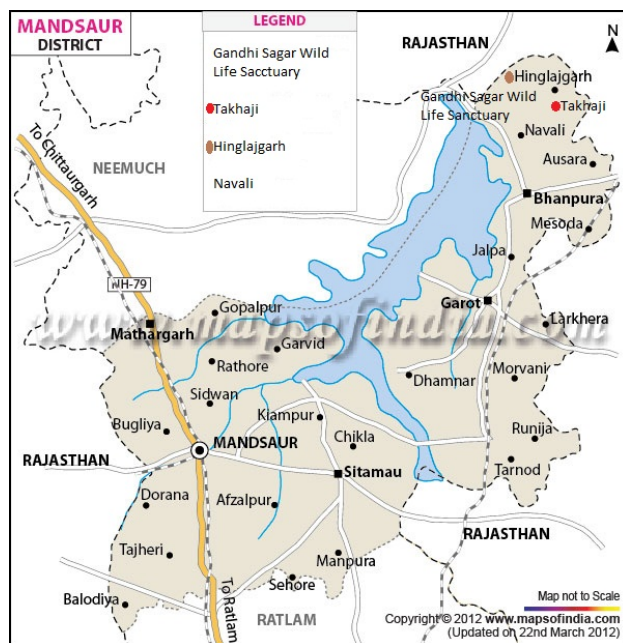


Figure no 1. Map of Mandsaur district

### Climate

The climate of this district is generally dry and it comes under semi-arid region-Zone 4. May is the hottest month in which temperature goes up to 45°C. January is the coldest month with minimum temperature up to 2°-3°C. The average annual rainfall is 786.6 mm. Typical vegetation of the area is tropical dry deciduous forests (Champion and Seth, 1968). This climate is suitable for the growth of *Uraria picta*.

### RESULTS AND DISCUSSION

We found *Uraria picta*, Desv in Takhaji and Hinglajgarh of Mandsaur district (Figure no 2. and Figure no 3.). This plant was not reported growing wildly earlier. *Uraria picta* is a critically endangered medicinal plant in tropical Forest of Malyagiri Hill Ranges, Odisha, India (Pradhan and Nayak, 2018) Rare and Endangered Plants of Pachmarhi Biosphere Reserve (Pramod Patil, 2013). Endangered in Korla District in Chhattisgarh (India) (Mantosh Kumar Sinha, 2013); endangered and also Ethnomedicinally important Plant Used by Tribals of Harda District of M.P., India (Sainkhediya and Ray, 2014). This plant was reported as vulnerable plant in Amarkantak and Kerar ghati area, as well as This plant is reported as vulnerable in Bandhavgarh and Panpatha area of Madhya Pradesh (Chouhan et al., 2007), and other parts of Madhya Pradesh (ENVIS, 2010). A taxon is endangered when it is not critically endangered but is facing a very high risk of extinction in the wild in the near future.



Figure no 2. *Urariapicta* plant



Figure no 3. *Urariapicta* plant with seeds

## CONCLUSION

Mandsaur district is very rich in phytomedicinal diversity. The climate of this district is suitable for *Urariapicta*; as we found plant in wild condition. This plant is very useful for the medicinal purposes not only in ayurveda but also allopathy and other systems of medicines. It is the most important ingredients among the ten herbs used for ayurvedic formulation called as Dashmula (Khare, 2007). The herb is traditionally used as an antipyretic, diuretic, astringent (used for irritable bowel syndrome, diarrhea, and dysentery) against colds, diuretics, anthelmintics, laxatives, and tonic nerves (Mane et al., 2021). As in China, where

*U. picta* is used as a popular remedy, it is mainly used to treat fever, neutralize toxins, relieve pain, stimulate blood circulation, relieve cough, and improve breathing (Xueqin et al., 2011). Diversity of medicinal plant is continuously under the threat of extinction as a result of over-exploitation, incorrect harvesting techniques and unregulated trade of medicinal plants (Pramod Patil, 2013). Over exploitation of trade species, destructive way of collection, vulnerability due to anthropogenic pressure are some of the major threats to medicinal plants. Conservation and sustainable use of medicinal plants are issues on which immediate focus is required in the context of conserving biodiversity.

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