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***Wrightia tinctoria* R.Br. (Sweet Indrajao): A potential ethnomedicinal plant of Sonbhadra district, Uttar Pradesh, India**

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Abstract

Wrightia tinctoria R. Br. belongs to the family Apocyanaceae is commonly known as Sweet Indrajao, and Pala indigo internationally and as Indrajava in Sonbhadra district of Uttar Pradesh. This plant is used by the indigenous people of the region against various ailments such as jaundice, malaria, psoriasis, itching and many diseases. The survey of various literature reveals promising compounds that aid in the treatment and is used in Indian system of medicines like Ayurveda, Siddha and Unani system of medicines. The plant is considered to be rich secondary metabolites such as alkaloids, saponins, phenolics, indigotin, indirubin, wrightial and sterols.

Keywords: Indrajao, jaundice, psoriasis, secondary metabolites

Introduction

W. tinctoria is a small deciduous tree, 5-8 m tall and has a scaly, smooth bark. Leaves are variable, 6-15 cm X 3-6 cm, elliptic-lanceolate or oblong-lanceolate, acuminate, glabrous or the young leaves puberous beneath, base acute or rounded; main nerves 6-12 pairs and petioles 3-4 mm long. Flowers are white, fragrant, in lax terminal cymes, bracts minute, ovate. Calyx is glabrous, glandular inside, segments or teeth 2.2-5.0 mm long, oblong, rounded at the apex and with membranous margins. Corolla tube is short, 2.5-3.0 mm long, white, lobes 6-8 mm long, oblong and obtuse. Corona consists of numerous linear scales, some inserted with the filaments and some on the corolla-lobes. Stamens are at the top of the corolla tube. Filaments are short, dilated, anthers exerted, sagittate conniving around and adhering to the stigma. The ovary is of 2 carpels, free or connate; ovules many in each carpel. Fruits are made of 2-distinct pendulous, follicles 20-40 cm long, cylindrical, slightly tapering to both ends, glabrous, striate, cohering at first at the tip only. Seeds are 1.2-2.0 cm long, pointed at the apex with deciduous coma often more than 3.0-3.7 cm long at the base (Naik, 1998; Singh, N.P *et al.*, 2001) ^[1, 5]. The whole plant or its specific parts (bark, leaf, seed and root) are known to have medicinal properties and have a long history of use by indigenous communities in India (K.M., Nadkarni, 1976) ^[2]. Phytochemical studies have shown that it contains alkaloids, triterpenoids, steroids, flavonoids, phenolics, carbohydrates, lipids etc. *Wrightia tinctoria* has been allotted to have good analgesic, anti-inflammatory, anthelmintic, antiulcer, antidysenteric, antidiabetic, anticancer, antipyretic activities as well as active in the treatment of psoriasis (Kale, Niraj *et al.*, 2021) ^[3]. The district Sonbhadra lies in Vindhyan Plateau between 23° 45' to 24° 34'N latitude and 82° 45' to 83 °23'E longitude and elevation above the mean sea level ranges between 315 m to 485 m (Singh *et al.*, 1992) ^[6]. This area is inhabited by several tribes such as Gond, Mushar, Bhil, Agariya, Baiga, Bhuiya, Chero, Kharwar, Panika, Pahariya and Patari (Singh, A.K *et al.*, 2002) ^[7]. The aborigines use this plant against various ailments and mention its promising affect. Ethnomedicinal informations were recorded during repeated survey of district and some useful informations are mentioned in this paper in tabulated form:

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Table 1: Showing traditional medicinal uses of different parts of a plant for treating various ailments

S. No.	Plant part	Ailment	Uses
1.	Leaf	Psoriasis	Powder of leaves are mixed with coconut oil and applied over the affected areas of body regularly after bath.
		Wound	Leaf paste is mixed with turmeric powder and applied for healing wound.
		Malaria	Powdered leaves are given after two meals for treating malarial fever.
		Tooth ache	Leaf paste is applied over gums to get relief in pain.
		Jaundice	Juice of tender leaves is given for 5 days after 2 meals.
2.	Bark	Wound	Paste is applied for wound healing.
		Leprosy	Paste is applied on the affected area.
3.	Stem	Toothache and gum problem	Stem is used as tooth brush.
4.	Latex	Delivery	Latex is applied externally on vagina for easy delivery.

Conclusion

W. tinctoria is a valuable medicinal plant having a variety of the important secondary metabolites as alkaloids, saponins, phenolics, indigotin, indirubin, wrightial and sterols (Khyade, Mahendra, 2014) [4]. Based on the facts, it is concluded that this plant species may form a good potential source in the drug development. The therapeutic potential of the plant should be explored more as it seems to be reservoir of many more chemical constituents which may be source of many effective medicines in coming future.

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