

AN IMPORTANT ETHNOMEDICINAL PLANT *OROXYLUM INDICUM* (L) VENT

***Shweta S. Saboo¹, Rani.W. Chavan¹.G.G.Tapadiya², S.S.Khadabadi²**

¹Department of Pharmacognosy, Govt. College of Pharmacy, Aurangabad, India

²R. C. Patel Institute of Pharmaceutical Education & Research, Shirpur, India

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***Correspondence for**

Author:

Dr. Shweta S. Saboo,

Department of Pharmacognosy,
Govt. College of Pharmacy,
Aurangabad, India.

ABSTRACT

Herbal drugs constitute a major share of all the officially recognized systems of health in India. More than 70% of India's 1.1 billion population still use these non-allopathic systems of medicine .The usage of herbs to treat a variety of different ailments is universal, and exists in every human culture on Earth different Ethno medicinally important plant are available in our surrounding which having lot's of medicinal importance .in this paper we are focusing on importance of *Oroxylum indicum* (L) Vent Family Bignoniaceae syn *Bignonia indica* L .*Oroxylum indicum* (L) Vent Ethnobotanical it's reported as a good rheumatism pain and enlarged spleen, cough, bronchitis, piles, jaundice dyspepsia, smallpox, colic, leucoderma, pharngodymia,

cardiac disorders, gastropathy, hemorrhoids and cholera, arthritis .It is distributed tropical areas, *Oroxylum indicum* (L) Vent manly cultivated by seedling and propagation. In this paper we are also discussing about morphological character of Leaves, Flowers , Habit , Diagnostic characters .chemically also it's very enriched plant the number of Chemical constituents like flavonoids, phenolics, tannins, Chrysin, Oroxylin A, Baicalein , lapachol , baicalein , quercetin , kaempferol , quercetin-3-O-ara-binopyranoside, scientifically this plant is reported as good antimutagenicActivity, antioxidant and hepatoprotective activity, *vitro* antihyperglycemic activity, antifungal, anti inflammatory, anti cancerous.

KEYWORDS: *Oroxylum indicum* (L) Vent antimicrobial activity, antitumor activity, hepatoprotective activity.

INTRODUCTION

Biodiversity of natural resources has served not only for the primary human needs but also for health care, since time immemorial. The Indian subcontinent, with the history of one of the oldest civilization, harbors many traditional health care systems. Their development was supported by the diverse biodiversity in flora and fauna due to variations in geographical landscaping. Ayurveda, whose history goes back to 5000 b.c., is one of the ancient health care systems. The Ayurveda was developed through daily life experiences with the mutual relationship between mankind and nature. The ancient text of Ayurveda reports more than 2000 plant species for their therapeutic potentials. Besides Ayurveda, other traditional and folklore systems of health care were developed in the different time periods in Indian subcontinent, where more than 7500 plant species were used. According to a WHO estimate, about 80% of the world population relies on traditional systems of medicines for primary health care, where plants form the dominant component over other natural resources. Renewed interest of developing as well as developed countries in the natural resources has opened new horizons for the exploration of natural sources with the perspectives of safety and efficacy. The development of these traditional systems of medicines with the perspectives of safety, efficacy and quality will help not only to preserve this traditional heritage but also to rationalize the use of natural products in the health care. Until recent past the nature was considered as a compendium for templates of new chemical entities (NCEs). The plant species mentioned in the ancient texts of these Ayurveda and other Indian systems of medicines may be explored with the modern scientific approaches for better leads in the health care ^[1].

STUDY OF *OROXYLUM INDICUM* (L) VENT

Characteristics of Bignoniaceae Family

The Bignoniaceae are mostly tropical trees or shrubs comprising about 100 genera and 800 species that usually boast large, showy flowers and are often lianous. The leaves are nearly always opposite or whorled and are most commonly pinnately compound or more than once compound stipules are absent. The flowers are bisexual and zygomorphic. The synsepalous calyx usually has 5 teeth or lobes. The sympetalous corolla usually has 5 teeth or lobes and is sometimes 2-lipped. The androecium consists most commonly of 4 didynamous stamens that are attached to the corolla tube or epigynous zone, alternate with the lobes. The gynoecium consists of a single compound pistil of 2 carpel's, a single style, and a superior ovary with typically 2 lobules, each bearing numerous axile ovules. An annular or copular nectar disk is

usually found around the base of the ovary. The fruit is usually capsular with winged seeds, or sometimes indehiscent with wingless seeds ^[2].

MORPHOLOGICAL STUDY OF *OROXYLUM INDICUM* (L) VENT

- Trunk & Bark :** Bark brownish-grey, soft often covered by many corky lenticels^[3].
- Leaves :** Leaves compound, 2-3_pinnate, with opposite pinnate, very large 90-150 cm long, almost triangular in outline; primary rachis stout, cylindrical; secondary and tertiary rachis striate; petiole 5.5 cm long striate; leaflets 2-4 pairs with terminal odd one, opposite, lamina 7-17 x 3.5-10 cm, ovate or elliptic, apex caudate-acuminate, base rounded or asymmetric, margin entire, glabrous; midrib flat above; 1-2 pairs of secondary nerves arising from base; tertiary nerves broadly reticulate^[3].
- Inflorescenc / Flower :** Flowers in terminal racemes, large, reddish-purple and pinkish-yellow within ^[3].
- Fruit and Seed :** Capsule 30-90 cm long, flat, purple brown; seeds many, flattened with broad hyaline papery wings ^[3].

Leaves, Stem & Roots: Nearly all members of this Family have woody stems. The leaves are opposite, with no stipules, and are usually compound. There are often tendrils used for climbing. The calyx has five lobes, and is sometimes 2-lipped ^[2].

Flowers: The flowers are bell or funnel shaped, also with five lobes. They grow in clusters and are usually large and brightly-colored. There are four stamens^[2].

Seeds: The seedpod forms inside the flower (a superior ovary). The seeds are usually flat with papery wings, although sometimes there is an indehiscent fleshy fruit containing unwinged seeds (*Kigelia*) ^[2].

CULTIVATION ASPECTS

Distribution: Indochina and Indomalaysia in the Western Ghats- occasional from South to Central and south Maharashtra Sahyadris and West Coast Region. India, Sri lanka, China, Thailand, Philippines and Indonesia. It is restricted to Eastern and Western Ghats and North East regions ^[3].

Habitat and ecology: Along margins of evergreen and in moist deciduous forests up to 800m^[3]

Ethnobotanical uses: The roots are sweet, astringent, bitter, acrid, refrigerant, expectorant, digestive, carminative, febrifuge, diuretic, antimicrobial, antifungal, anti-inflammatory and tonic. They are useful for vata and kapha, dropsy, flatulence, colic, diarrhea and dysentery. Stem bark paste is applied for the cure of scabies and to treat arthritis. Leaf decoction is given in treating stomachache, ulcers, rheumatism pain and enlarged spleen. Mature fruits are useful in treating cough, bronchitis, piles, jaundice dyspepsia, smallpox, colic, leucoderma, pharyngodymia, cardiac disorders, gastropathy, hemorrhoids and cholera. Seeds are used as purgative. Dried seed powder used by women to induce conception. Seeds yield non-drying oil used in perfume industry. Stem bark and fruits are employed as mordent; the stem bark yields a khaki color dye. The decoction of the roots is commonly used for arthritis. Used externally as a paste of its skin of roots, it dries up the discharges and promotes the wound healing^[2].

CHEMICAL CONSTITUENTS OF *OROXYLUM INDICUM* (L) VENT

Oroxin B , Oroxin A , Chrysin, Chrysin-7-O- β -diglucoside , Chrysin-7-O- β -galactopyranuronoside , Apigenin , Lupeol ,2 α ,3 β -dihydroxylupeol, Stigmasterol Oleic acid . Chrysin-7-O- β -galactopyranuronoside , Lupeol,2 $\alpha\alpha$,3 β -dihydroxylupeol and Stigmasterol were first isolated from the seeds of *Oroxylum indicum* (L.) Vent baicalein, quercetin , kaempferol , quercetin-3-O-ara-binopyranoside , lup-20 ene-2 α ,3 β -diol , pinosylvin , dihydropinosylvin , cholest-5-ene-3, 7-diol , renygol , isorenygol , zarzissine, (E) -pinosylvin-3-O-beta-D-glucopyranoside, adenosine, sitosterol and daucosterol^[4].

RECENT WORK ON *OROXYLUM INDICUM* (I) VENT

1. antimicrobial and antiinflammatory activities of extract^[5].
2. genotoxicity and cell proliferative activity of a nitrosated *oroxylum indicum* vent fraction in the pyloric mucosa of rat stomach^[6].
3. *in vitro* antioxidant and preliminary hepatoprotective Activity of leaf extracts^[7].
4. Insulin resistance and glucose transport by stem bark in stz induced diabetic rats^[8].
5. Methanol extract of *leaves* induces g1/s cell cycle arrest in hela cells via p53-mediated pathway^[9].

6. TLC studies of leaves and petioles of an endangered ethno medicinal^[10].
7. Purification, characterization and cytotoxic activity of two flavonoid from *Oroxylum indicum* vent (Bignoniaceae)^[11].
8. Gastroprotective Effects of Root Bark^[12].
9. Anti-arthritic activity of root bark of against adjuvant-induced arthritis^[13].

STATES OF ON CONSIDERATION OF *OROXYLUM INDICUM* (L) VENT PHYTCHEMISTRY

1. Analysis of flavonoids by HPLC–MS^[14].
2. Quantification of total phenolic and total flavonoid contents in extracts of *Oroxylum indicum* l. kurz^[15].
3. Isolation and bioactivity evaluation of two metabolites from the methanolic extract of stem bark^[16].
4. Isolation and identification of four flavonoid constituents from the seeds of *O. l.* by high-speed counter-current chromatography^[17].
5. Quantification of Baicalein, Chrysin, Biochanin-A and Ellagic Acid in Root Bark of *Oroxylum indicum* by RP-HPLC with UV Detection^[18].

DISCUSSION AND CONCLUSIONS

Oroxylum indicum (L) Vent is a well known plant used in the Indian system of medicine, besides folklore medicine also claims its use rheumatism pain and enlarged spleen, cough, bronchitis, piles, jaundice dyspepsia, smallpox, colic, leucoderma, pharngodymia, cardiac disorders, gastropathy, hemorrhoids and cholera, arthritis. Research carried out using different *in vivo* and *in vitro* techniques of biological evaluation support most of these claims. Recent studies have focused mainly on its , antimicrobial, hepatoprotective, , antimutagenic, ant proliferative and antioxidant activities. Literature survey reveals that despite the enormous work done on this plant some of the pharmacological activities are still not proven scientifically. Some of the compounds present in are pharmacologically well known and provide additional supporting evidence for possible *Oroxylum indicum* (L)Vent mechanism of action. This review was an attempt to compile an up-to-date and comprehensive review of *Oroxylum indicum* (L)Vent that covered its distribution, description Chrysin, Oroxylin A, Baicalein , lapachol Oroxin B (M1), Oroxin A (M2), Chrysin (M3), Chrysin-7-O- β -diglucoside (M4), Chrysin-7-O- β -galactopyranuronoside. (M5), Apigenin (M6), Lupeol (M7), 2 α ,3 β -dihydroxyllupeol, Stigmasterol cultivation aspects traditional, morphological study, and medicinal uses, phytochemistry and pharmacology.

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