

**HOLOPTELIA INTEGRIFOLIA ROXB- BIRDS EYE VIEW****Dr. Irshad Ahmed<sup>1</sup> Dr. Mariam Arsiwala<sup>1</sup> Dr. Chandan Singh<sup>2</sup> Dr. Manoj Adlakha<sup>3</sup>**<sup>1</sup>PG Scholars, <sup>2</sup>H.O.D, <sup>3</sup>Assistant Professor,

Dept. of Dravya Guna Vigyan, D.S.R.R.A.U., Jodhpur, Rajasthan, India

**ABSTRACT**

*Chirbilwa- Holoptelia integrifolia* Roxb. (Ulmaceae), is a medicinal Ayurvedic plant growing wildly throughout India. Plant materials or their extracts have been utilized as drugs since long in many parts of the world, India and China being the oldest among them. In India formerly, only systems like *Ayurveda*, *Unani* and *Siddha* were found to be using plant materials in preparing dosage forms but now other systems of medicine have also realized the importance of these products and manufacturing units preparing plant based drug formulations are found to be increasing to a large extent. The plant was much confused with *Pongamia pinnata* and further discussed. Each and every part of the plant is claimed to possess some therapeutic property but leaves are most widely used part all over the world in various system of medicines.

**Keywords:** *Chirbilwa*, *Holoptelia integrifolia* Roxb, formulations.

**INTRODUCTION**

No proper reference of *Chirabilwa* is traced in vedas. The plant *Chirabilwa* is available in ancient literature. As we proceed from Samhita to Nighantu period, some of the synonyms are so common for *Putika* & *Karanja*. Chakrapani remains silent in the context of *Grahani Chikitsa* of charak samhita<sup>1</sup>, where *Karanjou* term arises. Secondly in context of *Phalini dravya*, where *Maharishi Charak* mentioned *Prakirya* & *Udakirya*, Chakrapani told both as *karanjadwaya*.<sup>2</sup>In *Sushruta samhita* puteek is included in preparation of *Putikadi Lepa*, *Darana Karma*, *Shodhanakalka*, *Adhobhaga-Haradravya* & *Varunadigana*.

**Notable Synonyms of *Chirabilwa* Signifying Its Morphological Character:**

***Putikaranja*** – *Putikodurgandhou* = Means plant having foul smell.

When we crush the leaf of the *Chirabilwa* or tear out the fresh bark, it produces foul smell which signifies the name of *Putikaranja*. Ultimately we reach to a conclusion that *Putika*, *Putikaranja*,

*Chirabilwa* & *Prakirya* are synonymous and same.

***Prakirya*** – *Prakiryantephalaniascha*<sup>3</sup> = It means the plant having fruit that is dispersed through wind is known as *prakirya*. Hence *Chirabilwa* is *prakirya* as its fruits dispersed through wind.

In *Charaka Samhita* as well *Sushruta Samhita*, the word *putik* arises much number of places. When we overlook the *Dalhana*

commentary on *Sushruta Samhita*, he told *putik* or *putikaranja* is *chirbilwa*.

**Chirabilwa** – *Chiramvilatibhinnatimalamiti*  
= It immediately expels the vitiated *doshas* from the body.

**Prakeerna** – *Prakeeryateprakeerna* = which destroys disease like *kustha*.

**Table 1: Classical Categorization:**

Sl.no	Classical	Categorization
1.	<i>Charakasamhita</i>	<i>Lekhaneeya&amp;bhedaneeyamahakashaya</i>
2.	<i>Sushrutasamhita</i>	<i>Varunadigana, shleshmasamsanavarga</i>
3.	<i>Madanpalnighantu</i>	<i>Vatadivarga</i>
4.	<i>Kayadevnighantu</i>	<i>Aushadhdivarga</i>
5.	<i>Dhawantarinighantu</i>	<i>Amradivarga</i>
6.	<i>Raj nighantu</i>	<i>Prabhadrdivarga</i>
7.	<i>Amarkosh</i>	<i>Banaushdhiyavarga</i>
8.	<i>Sodhalanighantu</i>	<i>Amradivarga</i>
9.	<i>Madhavdravyaguna</i>	<i>Shakavarga, lavanvarga</i>
10.	<i>Bhavprakashnighantu</i>	<i>Guduchyadivarga</i>
11.	<i>Nighantuadarsh</i>	<i>Putikaranjadivarga</i>
12.	<i>Priyanighantu</i>	<i>Haritakyadivarga</i>

**Table 2: Pharmacodynamics (Rasa Panchak):**

1.	<b>Rasa</b>	<b>Tikta, kashaya</b>
2.	<b>Guna</b>	<b>Laghu, ruksha</b>
3.	<b>Virya</b>	<b>Ushna</b>
4.	<b>Vipaka</b>	<b>Katu</b>
5.	<b>Dosha karma</b>	<b>Kapha- pittashamak</b>

**Action and Properties:**

**Karma:** *Lekhana, Sothahara, Raktasodhaka, Kusthaghna, Pramehaghna, Dipana, Anulomana, Pittasaraka, Bhedana, Krmighna.*

**Roga:**

- *Abhyantara – Medoroga, Kustha-Carmaroga, Raktavikara, Agnimandhya, Chardi, Udarroga, Sula, Gulma, Arsa, Krimi, Prameha*
- *Bahya - Sotha*

**Therapeutic Uses:**

- Gulma & Colic:* Leaf-buds of *chirabilva* fried in oil should be taken.<sup>4</sup>
- Wounds :*

It comes in the group of tearing agents.<sup>5</sup> Oil of *karanja, putika*, etc. is used in dirty wounds.

c) *Udararoga :*

In case of constipation, vegetable of the leaves of *sankhuni, snuhi, trivrit, danti, chirabilva* etc. preferably before meals.<sup>6</sup> Seeds of *putikaranja* taken with sour alleviate ascites. Alkali of *putikaranja* decanted with sours and mixed with *vida* salt and *pippali* is useful.<sup>7</sup>

d) *Helminthes:* Juice of *putika* should be taken with honey.<sup>8</sup>

e) *Filaria:* One should use the juice of *putikaranja* leaves according to strength.

- f) Placenta expulsion : Bark of *putikaranja* or *kakodumbara* pounded with sour gruel and taken placenta immediately
- g) Piles: Paste of *citraka*, *putika* & *sunthi* mixed with alkali of *putika* should be used.<sup>9</sup>
- h) Pox: intake of the juice of the *Putikaranja* and *Amalaki* mixed with sugar and honey should be taken. It alleviates inflammation in pox caused by *Kapha* & *Pitta*.
- i) Gastritis: Leaf buds of *Putikaranja* fried in ghee should be given in food followed by emesis with warm water.
- j) Vitiligo : Leaves of *Putika*, *Arka*, *Snuhi*, *Aragvadha*, & *Jati* are pounded with urine and the paste applied to the spot .it destroys vitiligo, ring worm, dirty wounds, piles & sinuses.<sup>10</sup>
- k) Foul smell: Seeds of *Putikaranja* mixed with ripe *Tindika* (*Amlika*) should be applied.

**Part used:** leaf buds, leaves, bark, seeds.<sup>11</sup>

**Table 3: Modern View of Drugs**

<b>Kingdom</b>	<b>Plantae</b>
<b>Division</b>	Angiosperm
<b>Class</b>	Dicotyledonae
<b>Order</b>	Urticales
<b>Family</b>	Ulmaceae
<b>Genus</b>	<i>Holoptelea</i>
<b>Species</b>	<i>integrifolia</i>

**Botanical Description:**

*Holoptelea integrifolia* Roxb is a tree which grows to a height of 20m bearing light yellow flowers. It is distributed throughout the greater part of the India up to an altitude of 660 m , lower ranges of Himalaya from Jammu to Oudh , Rohilakhand, forestes of Dehradun , Saharanpur, Orissa, Chota Nagpur, Bihar, Jharkhand , West Bengal, Eastern slopes of Western Ghats and North Circars<sup>12</sup>

a) **Macroscopic :** <sup>13</sup>

- Leaves are elliptic-ovate, acuminate base round & sub chordate, glabrous, entire (those of the seedlings & shoots often serrate), dimension 7.5-12.5 × 3.2-6.3 cm
- Petioles: 6-13 cm long
- Flower: Light yellow usually male and hermaphrodite mixed. Polygamous, in

short racemes or fascicles on the leafless branches.

- Sepals: Often 4, pubescent, 1.5-2.5 mm long.
- Stamens: 4-8 (often 6-7), filament glabrous anthers pubescent.
- Ovary: Compressed pubescent, 1-celled, stalked, the stalk lengthening as the seed ripens.
- Style: 2.4 - 4 mm long, stigmatose on the inside throughout their whole length.
- Fruit: A one seeded samara, light brown; obliquely elliptic or orbicular 1.5-2.5 cm wide 2.5 - 3.5 cm = winged and stalked indehiscent, wings reticulated veined.
- Flowering season is between January-February while fruiting is from April to May.

- b) **Microscopic:** Fruit shows single layered epicarp having numerous, pointed, unicellular hairs; mesocarp composed of 3-

5 layered, oval to polygonal, elongated parenchymatous cells; a few vascular bundles and tannin cells found scattered in this region; endocarp consisting of 2-3 layered, round to oval, sclerenchymatous cells with striations and narrow lumen; perisperm in seed composed of single layered, parenchymatous cells filled with reddish-brown content; endosperm and

embryo composed of colourless cells containing oil globules. Powder - Reddish-brown; shows fragments of thin walled, oval to polygonal parenchymatous cells of endosperm, taniferous oil globules, unicellular hairs, thick walled, polygonal, sclerenchymatous cells, polygonal cells of testa in surface view.

**Identity, Purity and Strength:** <sup>14</sup>

Foreign matter	-	Not more than 1 Percent
Total ash	-	Not more than 9 Percent
Acid-insoluble ash	-	Not more than 1 Percent
Alcohol-soluble extractive	-	Not less than 10 Percent
Water-soluble extractive	-	Not less than 13 Percent

**T.L.C.:** -

T.L.C. of the alcoholic extract on Silica gel 'G' plate using Toluene: Ethylacetate (9: 1) shows under UV (366 nm) a fluorescent zone at Rf 0.85 (blue). On exposure to Iodine vapour five spots appear at Rf 0.11, 0.38, 0.44, 0.50 and 0.85 (all yellow). On spraying with Vanillin-Sulphuric acid reagent and heating the plate at 105°C for ten minutes five spots appear at Rf. 0.11, 0.38, 0.44, 0.50 and 0.85 (all violet)

**Chemical Constituents:** <sup>15</sup>

- Leaves :- hexacosanol , octacosanol, - sitosterol and - amyirin
- Stem Bark:-Two triterpenoid fatty acid esters holoptelin A & B, 2-aminonaphthaquinone, friedelin, epifriedelinol, -sitosterol and its -D-glucose
- Heartwood :- -sitosterol, 2 , 3 - dihydroxyoelan- 12-en-28 oic acid and hedragenin
- Dried Seeds:- carbohydrates, pigments, oils, acids, glycosides, sterols, tannins, proteins, free amino acids, major fatty acids- palmitic acid, oleic acid, myristic,

stearic, linoleic and linolenic acids, steroids – -sitosterol and stigmasterol.

- Pollens:- histamine & 5-hydroxytryptamine.

**Pharmacological Activities:**

The crude leaf sap of plant was mildly active against bean common mosaic virus. Pollen grains are allergic.

**Toxicology:** Branches are poisonous to fish.

**Formulations:** *Chirabilvadikwatha, Chirabilvadichurna, Chirabilvadilepa, Kushthanashana Rasa, Agurvaditaila.*

**Propagation and Cultivation:**

It thrives in deep porous soil with good drainage but becomes stunted and crooked on poor shallow soil. It is a moderate light and is not frost hardy. It coppices well. The tree sheds its seeds during the hoot season and they germinate at the commencement of the rains. Protection from the sun in early stages is a beneficial.

**CONCLUSION:**

In a short review, it is difficult to be comprehensive and complete. Hence, I have chosen to be provocative to suggest fields for research so that the vast potential of medicinal plants, in therapy, can be explored.

On a personal note, *Chirabilwa – Holoptelia integrifolia* is a drug of future in view of its many medicinal properties. More chemical and pharmacological studies are needed to unfold the mysterious property of this plant. Organized cultivation should be undertaken at lower elevations to provide quality raw materials to the herbal industry.

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#### CORRESPONDING AUTHOR

**Dr. Irshad Ahmed**

PG Scholars, Dept. of Dravya Guna Vigyan, D.S.R.R.A.U., Jodhpur, Rajasthan, India

**Email:** irshad.dsrrau@gmail.com

**Source of Support:** Nil

**Conflict of Interest:** None Declared