HOLOPTELIA INTEGRIFOLIA ROXB- BIRDS EYE VIEW
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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 samhita¹, where Karanjou term arises. Secondly in context of Phalini dravya, where Maharsi Charak mentioned Prakirya & Udakirya, Chakrapani told both as karanjadwaya.² 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 – Prakiryantephalaniyascha³ = 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 Samhitaas well Sushruta Samhita, the word putik arises much number of places. When we overlook the Dalhana
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Commentary on Sushruta Samhita, he told putik or putikaranja is chirabilva.

Chirabilva – Chiramvilatibhinnatimalamitī = It immediately expels the vitiated doshas from the body.

**Table 1: Classical Categorization:**

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Classical</th>
<th>Categorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Charakasamhita</td>
<td>Lekhaneeya&amp;bhedaneeyamahakashayaya</td>
</tr>
<tr>
<td>2.</td>
<td>Sushrutasamhita</td>
<td>Varunadigana, shleshmasamsanavarga</td>
</tr>
<tr>
<td>3.</td>
<td>Madanpalnighantu</td>
<td>Vatadivarga</td>
</tr>
<tr>
<td>4.</td>
<td>Kayadevnighantu</td>
<td>Aushadhadvarga</td>
</tr>
<tr>
<td>5.</td>
<td>Dhawanataringhantu</td>
<td>Amradivarga</td>
</tr>
<tr>
<td>6.</td>
<td>Raj nighantu</td>
<td>Prabhadradivarga</td>
</tr>
<tr>
<td>7.</td>
<td>Amarkosh</td>
<td>Banaushdhiyavarga</td>
</tr>
<tr>
<td>8.</td>
<td>Sodhalanighantu</td>
<td>Amradivarga</td>
</tr>
<tr>
<td>9.</td>
<td>Madhavadravyaguna</td>
<td>Shakavarga, lavanvarga</td>
</tr>
<tr>
<td>10.</td>
<td>Bhavprakashnighantu</td>
<td>Guduchyadivarga</td>
</tr>
<tr>
<td>11.</td>
<td>Nighantuadarsh</td>
<td>Putikaranjadivarga</td>
</tr>
<tr>
<td>12.</td>
<td>Priyanighantu</td>
<td>Haritakyadivarga</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>1.</th>
<th>Rasa</th>
<th>Tikta, kashaya</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Guna</td>
<td>Laghu, ruksha</td>
</tr>
<tr>
<td>3.</td>
<td>Virya</td>
<td>Ushna</td>
</tr>
<tr>
<td>4.</td>
<td>Vipaka</td>
<td>Katu</td>
</tr>
<tr>
<td>5.</td>
<td>Dosha karma</td>
<td>Kapha- pittashamak</td>
</tr>
</tbody>
</table>

**Action and Properties:**

**Karma:** Lekhana, Sothahara, Raktasodhaka, Kusthaghna, Pramehaghna, Dipana, Anulomana, Pittasaraaka, 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.⁴
- **Wounds:** It comes in the group of tearing agents.⁵ Oil of karanja, putika, etc. is used in dirty wounds.
- **Udararoga:** In case of constipation, vegetable of the leaves of sankhuni, snuhi, trivrit, danti, chirabilva etc. preferably before meals.⁶ Seeds of putikaranja taken with sour alleviate ascites. Alkali of putikaranja decanted with sours and mixed with vida salt and pippali is useful.⁷
- **Helminthes:** Juice of putika should be taken with honey.⁸
- **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

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.

k) Foul smell: Seeds of Putikaranja mixed with ripe Tindika (Amlika) should be applied.

**Part used**: leaf buds, leaves, bark, seeds.

**Table 3: Modern View of Drugs**

<table>
<thead>
<tr>
<th>Kingdom</th>
<th>Plantae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division</td>
<td>Angiosperm</td>
</tr>
<tr>
<td>Class</td>
<td>Dicotyledonae</td>
</tr>
<tr>
<td>Order</td>
<td>Urticales</td>
</tr>
<tr>
<td>Family</td>
<td>Ulmaceae</td>
</tr>
<tr>
<td>Genus</td>
<td>Holoptelea</td>
</tr>
<tr>
<td>Species</td>
<td>integrifolia</td>
</tr>
</tbody>
</table>

**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, Rohilakhanda, forestes of Dehradun, Saharanpur, OIrissa, Chota Nagpur, Bihar, Jharkhand, West Bengal, Eastern slopes of Western Ghats and North Cirmars.

a) **Macroscopic**:  
- 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. Polygamious, 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, tanniferous oil globules, unicellular hairs, thick walled, polygonal, sclerenchymatous cells, polygonal cells of testa in surface view.

**Identity, Purity and Strength:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign matter</td>
<td>Not more than 1 Percent</td>
</tr>
<tr>
<td>Total ash</td>
<td>Not more than 9 Percent</td>
</tr>
<tr>
<td>Acid-insoluble ash</td>
<td>Not more than 1 Percent</td>
</tr>
<tr>
<td>Alcohol-soluble extractive</td>
<td>Not less than 10 Percent</td>
</tr>
<tr>
<td>Water-soluble extractive</td>
<td>Not less than 13 Percent</td>
</tr>
</tbody>
</table>

**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:**

- Leaves :- hexacosanol, octacosanol, β-sitosterol and β-amyrin
- Stem Bark:-Two triterpenoid fatty acid esters holoptelin A & B, 2-aminonaphthaquinone, friedelin, epifriedelinol, β-sitosterol and its β-D-glucose
- Heartwood :- β-sitosterol, 2α, 3α- dihydroxyoelano- 12-en-28 oic acid and hedrergenin
- 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 –β-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, Agurvaditala.

**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 it 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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