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Ethnobotanical and Ethnopharmacological survey on *Leptadenia reticulata* (Wight & Arn)

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ABSTRACT

Leptadenia reticulata (Robert Wight & George Arnott Walker Arnott), ethnopharmacognostical and ethno pharmacological survey was done to know its medicinal and therapeutic uses. The herb used in traditional treatment for various diseases and ailments and it showed various biological properties like antimicrobial, galactagogue, antioxidant, normoglycemic, bronchodilator, immunomodulating, hepatoprotective, anti-inflammatory and anti-cancer actions. As folklore, the herb used as a stimulant and nervine tonic. Present survey, gives the latest ethno pharmacological report with therapeutic uses. The present survey gives more knowledge to the herbal researchers on the pharmacological uses of *Leptadenia reticulata*.

INTRODUCTION

Leptadenia reticulata (Robert Wight & George Arnott Walker Arnott), important herb, known for its medicinal and therapeutic values of the various parts in the plant. *Leptadenia reticulata* belongs to family *Asclepiadaceae*. Biological survey showed, it has a stimulant and nervine tonic activity. In *Veda's* it was mentioned as a strength provider, has galactagogue action and useful in many other diseased conditions. *Charaka* described it is significant Rasayana medicine, capable of

maintaining youthful vigor and strength. *Vagbhata* included it in the ten drugs that constitute the the vitalizing action. It promotes fitness and vigor, improves the tone of voice, cures eye diseases, fever, night-blindness, cough and alleviates. [2] Its property is like 'Chyawanprash'. [1] Mentioned it as a prolapsed of the uterus, eye tonic, stimulant, galactagogue, controlling habitual abortion, maintain pregnancy and astringent. [3] The hills of southern Rajasthan take its leaves, paste, and roots orally with water to cure gangrene.

Table.No1 Systematic Position and Vernacular names of *Leptadeniareticulata*

SYSTEMATIC POSITION		VERNACULAR NAMES	
Kingdom	Plantae	Sanskrit	Jivanti, Jivantika
Division	Magnoliophyta	Hindi	Jivanti, Dodi
Class	Magnoliopsida	Gujarati	Dodi, Radarudi
Order	Gentianales	Marathi	Hiranvel
Family	Asclepiadaceae	Bengali	Bhadjivai
Genus	<i>Leptadenia</i>	Kannada	Hiriyahalle
Species	<i>reticulata</i>	Tamil	Paalkizhangu
Botanical name	<i>Leptadeniareticulata</i>		
Synonym	<i>Cynanchumreticulatum</i>		

Distribution- *Leptadeniareticulata*, Jivanti, Dodi is found in many parts of India, like Gujarat, Punjab, Uttar Pradesh and also in Sri Lanka, Myanmar, Mauritius and Madagascar. This herb is a member of Asclepiadaceae plant family. **Habitat** - Distributed in sub himalayan tracts of India mainly in Punjab, Uttar Pradesh and throughout Deccan peninsula up to 900 m. **Habit** - A much-branched twining shrub with yellowish-brown, corky, deeply cracked bark, ovate-cordate, numerous. A twining shrub stems with cork-like deeply cracked bark, branches numerous, younger ones glabrous. [4] **Description** - Twining shrub with yellowish, corky, deeply, cracked bark. **Leaves** - Leaves ovate-lanceolate, base cordate or elliptic-oblong leaves, often with small hairs. **Flowers** - The flowering season is June to August. Flowers are greenish-white, in cymes greenish-yellow in colour. Follicle woody, turgid in axillary or terminal umbellate cymes and paired, cylindric, sub-woody, long, turgid follicles containing oblong, winged seeds with brownish-white coma. Calyx is 5 lobed. **Fruits** - Fruit follicles sub-woody. Tapering seeds 6mm. [5] **Seeds** - The seeds are compose. **Roots** - The roots are white or buff colored. **Parts Used** - Leaves and roots.

Medicinal Uses

The plant is galactogogue, cooling, nutritive, aphrodisiac, stimulant, and diuretic and eye tonic. Useful to cure eye-diseases, seminal debility, general weakness, cough, dyspnoea, fever, asthma [6] constipation, sore throat and gonorrhoea. Extracts of roots and leaves of the plant act as antibacterial and anti-fungal agent [7]. It promotes health and vigour, improves voice and alleviates the three dosasvata, pitta and kapha. It also cures eye diseases, hematemesis, emaciation, cough, dyspnoea, fever and

burning sensation, nasal and ear disorders, fever with burning sensation, cough, diarrhoea, defects of vision, night blindness and chest pain. Diseases of mouth, poisoning, skin affections, wounds, asthma, ringworm, lactation failure, uterine diseases, habitual abortions, dysmenorrhoea, impotency, erectile dysfunction, premature ejaculation and spermatorrhoea.

More than 25 known herbal formulations and many health care formulations are available in the market by using this plant [8]. Phytochemical analysis of the herb showed the presence of several phenolic compounds, glycosides and flavonoids [9]. Many bio active compounds such as α -amyrin, β -amyrin, ferulic acid, diosmetin, rutin, β -sitosterol, stigmasterol, hentriacontanol, simiarenol, apigenin, alkaloids, phenolic compounds were isolated from *Leptadeniareticulata* and reported to have important pharmacological activities. Interest in this plant is further enhanced due to traditional use of this plant for general debility, ulcer, anticancer activities, wound healing activities and anti-inflammatory activities [10, 11]. However, the scientific basis for therapeutic potential and mode of action of the active principles of this species remain still undisclosed. The previous report suggests the presence of phenolic compounds and flavonoids in *Leptadenia reticulata* [12]. The phenolics and flavonoids content of medicinal plants are reported to be responsible for anti inflammatory activities by inducing free radical scavenging activity and reducing inflammatory cytokines [13].

Several herbal formulations presently available in the market contain Jivanti due to its medicinal value. Hence, review ethnobotanical and pharmacological study on *Leptadeniareticulata* was not available on one platform during wide botanical survey and it was

thought meaningful study to carry out a detailed survey. In this review pharmacognostical and pharmacology properties of

Leptadeniareticulata were compiled which makes the researcher work easy.

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