

REVIEW ON RUDANTI: AN IMPERATIVE DRUG MENTIONED IN AYURVEDA AS RASAYANA FOR CHRONIC AILMENTS

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ABSTRACT

Rudanti is one of the four major **Rasayanas** described in *Sharangdhara Samhita*. *Rudanti* has been a controversial plant in terms of its identification. Different plants are being used in different parts of country as *Rudanti* like *Astragalus* species, *Capparis mooni* and *Cressa cretica* etc. the present study reviewed and tried to identify the noble herb based on the features described in *Raj Nighantu*. The study reveals that the herb *Rudanti* closely resembles morphologically with *Astragalus candolleanus* and *Astragalus malacophyllus* which are found in high altitude regions of Himalaya. Both the drugs have tremendous medicinal potential. Owing to its medical properties it can be inculcated in treatment as an adjuvant drug or main medication for many chronic and debilitating conditions among children and adults both in curative and preventive medication. Efforts need to be made to preserve these drugs by extensive in situ conservation and extensive cultivation.

Keywords: *Astragalus*, *Ayurveda*, *Rasayana*, *Rudanti*

INTRODUCTION

Rasayana have been considered as an important part of Ayurveda. Many *Rasayana* drugs have been studied and being reviewed in many studies which are described in classical texts such as *Amalaki*, *Giloy*, *Ashwagandha*, *Haritaki*. In the same sequence *Sharangdharsamhita* have exclusively told 4 *Rasayana* drugs while describing about the benefits of *Rasayana*: *Amrita* (*Amalaki*, *emblica officinalis*) *Abhaya* (*Haritaki*, *Terminalia chebula*),

Rudanti, *Guggulu* (*commiphora mukul*) among them *Rudanti* is one drug which is still not studied in detail, despite of its great medicinal benefits. The present study encompasses the identification, properties and medicinal benefits of this *Rasayana* drug.

Aims: This review aims at scanning the scattered information from the literature on the identification and medicinal qualities of Ayurveda *Rasayana* herb *Rudanti* and to provide

their scientific evidences, so that the information can be used for planning further clinical studies.

Method: Classical texts of Ayurveda and Botanical texts as well as PUBMED, MEDLINE database were used for the search of relevant literature and research papers. Papers published between Jan 1960 to Jan 2017 were only considered. The key words used for the search was 'Ayurveda', 'Rudanti' 'Rasayana' and 'Astragalus' etc. In-vitro analysis, experimental trials as well as clinical studies were included in the review to search out the reported therapeutic potential of Ayurveda herb. Only research articles published in English language were considered.

Identification: As per the properties given in *Rajnighantu – Parpatadi Varga*, like *Chana Patra Samam Patram* (Leaves like chana - gram), *kshupam aamlakam* (Herb or shrub like Aamlakam), *Shishire Jalbindunam Sra-vantiti* (watery secretion in winters- January and February) also as it is called as *Roman-chika* (hairy leaves may be considered to cause horripilation like sense hence so called), *Mahamaansi* (Leaves are velvety or thick), *Sudhasrava* (watery secretion)¹ it resembles most to one of the herb which is claimed as *Rudanti – Astragalus Leucocephalus* and *A. candolleanus*.

Rudanti have been also identified as *Astragalus* species in 'Uttarakhand ki vanaushadhi-yan' book with name *Rudravanti*², 'Ladakh ki sanskriti evam paramparagat tibeti chikitsa pranali' (Traditional Tibetan system of medicine & culture of Ladakh) book also mentioned *Rudanti- Astragalus candolleanus*, *As-*

tragalus munori.³ One recent study also correlated it with *Astragalus* species based on morphological aspect⁴. Hence in present study we have reviewed *Rudanti* as *Astragalus candolleanus* or *Astragalus malacophyllus* Benth ex Bunge.

About Astragalus species: *Astragalus* L., with about 2500–3000 species, is the largest genus of flowering plants in the world⁵. In India, it has about 80–90 species, chiefly distributed in the temperate to alpine regions of the Himalaya with the main centre of diversity in the cold deserts of Lahul-Spiti (Himachal Pradesh) and Leh and Ladakh (Jammu and Kashmir).⁶ *A. rhizanthus* Benth ex Bunge with three infra-specific taxa, *A. rhizanthus* ssp. *rhizanthus* var. *rhizanthus*, *A. rhizanthus* ssp. *rhizanthus* var. *pindreensis* (Baker) Podl., and *A. rhizanthus* ssp. *candolleanus* (Benth.) Podl. occurs in the Himalaya from Afghanistan to Nepal and in India from Jammu and Kashmir to Uttarakhand.⁷

A. malacophyllus can easily be differentiated from *A. rhizanthus* in habit, hairs, stem, leaf rachis, terminal leaflet, raceme and style. Generally, the plants grow gregariously with well-developed stems (nearly up to one meter long) and forming more or less bushy habit in *A. malacophyllus* while in *A. rhizanthus* the plants are almost stem less or occasionally with very short stems which grow singly or in tufts. In comparison to *A. rhizanthus*, the hairs are quite dense especially on both sides of leaflets in *A. malacophyllus*. The terminal leaflets in *A. malacophyllus* falls well before lateral leaflets and leave persistent and more or less stiff leaf rachis naked and subsopiny contrary to the

herbaceous leaf rachis of *A. rhizanthus* where leaflets are not deciduous. Apart from the differences in the vegetative characters, both species also differ in reproductive traits. The flowers are aggregate in a bunch at the tip of stems in *A. rhizanthus*, however, they are axillary on a distinctly pedunculated racemes in *A. malacophyllus*. The prominently hairy style of *A. malacophyllus* also makes the species quite distinct from glabrous style of *A. rhizanthus*.⁸

Anand et al.⁹ have examined the genetic differentiation of *A. rhizanthus*, *A. candolleanus*, *A. malacophyllus* and *A. pindrensis* using RAPD, ISSR and DAMD and concluded that the accessions of *A. malacophyllus* distinctly form a separate group.

Pharmacological Properties: *Raj Nighantu* mentioned following properties of *Rudanti*: *Katu tikta rasa, ushna virya*. The pharmacologically active constituents of Genus *Astragalus* belong to two different kinds of chemical compounds, polysaccharides and saponins.

Medicinal values: *Kshaya* (Tuberculosis or severe weakness) *Krimi Vinashini* (cures worm infestation), *Raktipitta* (bleeding disorders), *Kapha* (help cure *Kapha* disorders) *Shwas* (Dyspnoea) *Mehari* (Diabetes), *Rasayani* (*Rasayana* properties)¹⁰

Many varieties of *Astragalus* are used for Medicinal purposes. The most interesting pharmacological properties are hepato-protective, immune-stimulant and antiviral properties.¹¹ In tribal area of Jaunsar in Uttarakhand species of *Astragalus*. *A. candolleanus* *Royle ex Benth.* is used in Blood and skin diseases, tuberculosis

as Root decoction.¹² Among Bhotia tribe of Uttarakhand the root powder of plant is used in joint pain and as antidiabetic.¹³ The root is also used in Respiratory disorders in many part of Uttarakhand.¹⁴

In Amchi medicine system *Astragalus candolleanus* called as '*Zomo-shing chung-waa*' in Leh region and upper area of Kinnaur. It is used in high blood pressure, heart pain, eye problem and also in kidney problem, weakness, blood disorder, and menstrual disorder¹⁵. It is used in skin disease as blood purifier, also used in cough in Himchal Pradesh¹⁶.

A. malacophyllus *Benth ex Bunge* is a well-known drug as '*Rudanti*' used for tuberculosis, skin diseases, cough and as blood purifier. This drug is used in India since ancient time. The survey of Gangotri–Gaumukh Himalaya conducted in 2006 revealed that the local people of this areas take the leaves after making them paste and dissolving in water for 30 or 60 days during the season of the plants for purifying the blood. In another ethnobotanical uses, the leaves paste is also used by diabetic patients to reduce the sugar level in the blood. In traditional Chinese medicine it is used as a tonic and for treatment of diabetes and nephritis. Roots are used in treating tumors of eyes, liver, throat, chest and back pain. They are also used for tissues regeneration and wound healing¹⁷.

As per studies Dried Root powder *A. malacophyllus* *Benth ex Bunge* has been used for the following ailments in Chinese medicine¹⁸:

- **Diabetes-** *Astragalus* appears to lower blood sugar¹⁹.
- **Fatigue or lack of appetite from chemotherapy-** Some studies suggest *Astragalus*

may help reduce side effects from chemotherapy²⁰.

- **Heart disease-** Several studies suggest that Astragalus may act as an antioxidant and help treat heart disease²¹⁻²². Other studies suggest Astragalus may help lower cholesterol levels²³⁻²⁴.
- **Kidney disease.** Preliminary research suggests Astragalus may help protect the kidneys and treat kidney disease²⁵.
- **Seasonal allergies.** Study found that Astragalus may help reduce symptoms in people who have allergic rhinitis or hay-fever²⁶.
- **Cancer.** Preliminary studies suggest Astragalus may have anti-tumor effects, specifically against melanoma and leukemia²⁷⁻²⁸⁻²⁹.

DISCUSSION

Though there are lots of controversies in identification of the plant *Rudanti* three plants are majorly understood as *Rudanti* i.e., *Astragalus* *sps*, *capparis moonii* and *cressa cretica*. All have been used and are beneficial with their good medicinal values. Lots of work has been done on the use of *capparis moonii* and *cressa cretica* for its benefits and use. The present study we have encompassed the medicinal and morphological features of *Astragalus* species. Among *Astragalus* also there are near about 2900 species have been reported in earlier studies.²⁹ Usually *A. candolleanus* Royle ex Benth. is known as '*Rudanti*' or '*Rudravanti*' in Indian literature. However, a study reported that during field survey it was noticed that in Gangotri-Gaumukh area *A. malacophyllus* is called '*Rudanti*' or '*Rudravanti*' locally. From

the herbarium specimens study it was also revealed that actually *A. malacophyllus* Benth. ex Bunge has been attributed/annotated as '*Rudanti*' or '*Rudravanti*' on the herbarium specimens and not *A. candolleanus* Royle ex Benth. Due to misidentification *A. candolleanus* Royle ex Benth. has been designated as *Rudanti* or *Rudravanti*. *A. malacophyllus* Benth. ex Bunge and *A. candolleanus* Royle ex Benth. are very closely allied species¹³.

CONCLUSION

Rudanti is one the most important drug mentioned in Ayurveda and is being used in various parts of India. Based on the medicinal properties and as mentioned in Ayurveda the plant to have *Rasayana* properties *A. candolleanus* and also *A. malacophyllus* Benth ex Bunge both can be considered as *Rudanti* as both are very similar morphologically moreover as described in *Raj Nighantu* as *Amrit Sravait* can be justified as its leaves juice are used in Gangotri region for various ailments also the dew drops which accumulates in winter season over its leaves also are collected and used as medicine in Gangotri region as per the discussion with the local people of the region. But still final determination need to be done among both the sub species *A. candolleanus* and *A. malacophyllus* is an endangered herb and efforts need to be made to preserve this wonder herb both in situ and by extensive cultivation and can be inculcated in treatment as an adjuvant drug or main medication for many chronic and debilitating conditions among children and adults both in curative and preventive medication.

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