



ISSN 2278-4136

Online Available at [www.phytojournal.com](http://www.phytojournal.com)

## Journal of Pharmacognosy and Phytochemistry

# Traditional Indian Herbs Punarnava and Its Medicinal Importance

Debjit Bhowmik<sup>1</sup>, K.P. Sampath Kumar<sup>1\*</sup>, Shweta Srivastava<sup>2</sup>, Shravan Paswan<sup>2</sup>, Amit Sankar<sup>2</sup>, Dutta Dutta<sup>3</sup>

1. Karpagam University, Coimbatore, Tamil Nadu, India. [E-mail: [debjit\\_cr@yahoo.com](mailto:debjit_cr@yahoo.com)]
2. Department of Pharmaceutical sciences, Coimbatore medical college, Coimbatore, Tamil Nadu, India.
3. R. K. Pharmacy College, Azamgarh, Uttar Pradesh, India.

---

Ayurveda considers man as an integral part of Mother Nature. Therefore the laws of nature are very well applicable for him also. Ancient philosophy which ponders the “secret of life and beyond” gives prime importance for health. It has understood the need of longevity and effectiveness to attain the supreme goal. Punarnava helps maintain efficient kidney and urinary functions with its diuretic, laxative, stomachic, diaphoretic, anthelmintic anti-spasmodic and anti-inflammatory action. According to Ayurveda, Punarnava is bitter, cooling, astringent to bowels, useful in biliousness, blood impurities, leucorrhoea, anaemia, inflammations, heart diseases, asthma, alternatives etc. The leaves are useful in dyspepsia, tumours, spleen enlargement and abdominal pains. According to Unani system of medicine, the leaves are appetizer, alexiteric, useful in ophthalmia, in joint pains. Seeds are tonic expectorant, carminative, useful in lumbago, scabies. The seeds are considered as promising blood purifier.

---

*Keyword:* Punarnava, kidney and urinary functions

### 1. Introduction

Ayurveda aims for a holistic man with sharp intellect which can pierce in to the hidden truths of nature, and a heart concerned about the fellow beings, well supported with a physical efficiency to perform duties properly. The most ancient scriptures and the reference point of Indian life are Vedas. Ayurveda is an offshoot of Vedas. The umbilical cord connection of Ayurveda with the Vedas explains its strong philosophical basement. Earlier Ayurveda was taught in Gurukuls where the disciples stay serving their guru learning both theory and practical of life in a very organic way. Life is a journey. For those who know the destination and the road map it is a pleasure and source of enlightenment. Ayurveda is that science and art of living which guides you in the journey of life. It is the Indian wisdom for global health. In fact the Indian sciences were always concerned

about the wellbeing of not only the mankind but also of the other living things and even non-living things. The bits of knowledge about the laws governing the universe in general got consolidated as man started living in groups. In the light of this knowledge, he formulated the laws governing the health and illness using his scattered experience of healing he had gathered as the raw material. This gave rise to the science called Ayurveda. The prime effort of Ayurveda is to ensure health. The preventive aspects are described in great detail. The daily regimen and seasonal regimen are mentioned separately. Promotive medicine is another major area where Ayurveda has greater say. The rejuvenative and aphrodisiac treatments cater this need. Finally, in the curative domain, the etiology is analyzed and the imbalance it has created is evaluated before deciding the mode of treatment. The cardinal

reasons for all diseases are the derailed intellect, weak will, and impaired memory together is termed as Prajnaparadha. To conceive the right practice of health one need clear intellect. To put them in to practice one need a strong will. To avoid the wrong doings of the past, memory has to be intact. So Prajnaparadha remains the reason behind all the reasons that cause diseases. Apart from this, environmental and genetical reasons of disease are also recognized by Ayurveda. In all diseases in spite of varying reasons, the basic reason is the imbalance of Tridosha and the treatment principle is to bring back the normalcy. The disease can manifest as somatic, psychiatric, or psycho somatic. The balance is achieved by internal purification, external treatment modalities, administering medicine internally and also using holistic methods addressing both body and mind. It ranges from pancha karma, Rasayana, Yoga, meditation and so on. Panchakarma is a unique treatment package which is meant to cleanse both body and mind. They are emesis, purgation, enema, nasal medication, and bloodletting. Rasayana is the rejuvenative therapy which delays aging, provides immunity, enhances memory and increases sensory perception. Personal health is the sum total of good food, good regimen, good emotions and good environment. Ayurveda elaborate the science of diet stating the pros and cons of different food items. The quantity and quality of food is instructed. Ayurveda warns against the improper combination of food stuffs in detail and enlist the diseases it can cause. About exercise, sleep, and sex, Ayurveda gives clear guidelines. The timings and frequency have to be adjusted according to the seasonal variations. Six seasons have been identified in the Indian context and detailed seasonal regimens are given along with the method of changing one regimen to another in a gradual smooth manner. This helps to prevent seasonal disease and position the body against the seasonal variations. Punarnava is primarily used for kidney and

urinary disorders. An extract from the root extract is used as a kidney and liver tonic. It improves the functioning of kidneys damaged by diabetes. Being a diuretic and mild laxative, it helps in detoxification and prevents fluid retention. It also helps in treating obesity. It is hepatoprotective, used in treatment of jaundice and other liver problems. It provides relief from joint pains and inflammation, works as a blood purifier, gives immunity to the body, and improves functioning of lungs. Some researchers have suggested that it has antibacterial properties and used in treatment of gonorrhoea.

### 1.1 Biological Sources

Punarnava (Hogweed) literally means 'bring back to life' or 'renewer'. It is a creeper that grows wild in India and Brazil throughout year but dries during the summer. It bears small fleshy leaves, small reddish pink flowers and fruits in winter. It is bitter in taste and has cooling effect. It has very high medicinal value.



**Fig 1:** Punarnava

Similar to its name it rejuvenates the whole body i.e. with routine use of Punarnava a fellow become young again – full of vigor and vitality. Punarnava corrects the digestive system, alleviates fluid retention and very useful in managing heart diseases. Punarnava also benefits in anemia, hernia and respiratory distress. Punarnava can also be taken in liver problems and managing lipids and cholesterol in healthy limits.

### 1.2 Biological name: *Boerhavia diffusa*

Kingdom: Plantae  
 Division: Magnoliophyta  
 Class: Magnoliopsida  
 Order: Caryophyllales  
 Family: Nyctaginaceae  
 Genus: Boerhavia

**1.3 Common Names:-**santhi, moto satado, ataki, sanadika, gonajali, sanadika, sothagha, etc.

- **Nature:-**it is a herb mostly spreads on the ground.
- **Leaves:-**leaves are small with whitish on the lower surface and upper green.
- **Flowers:-**flowers are very small reddish in color.
- **Fruits:-**fruits with five coloring glandular
- **Medicinal Uses:-**This plants root is useful.

The drug punarnava made up by this plants leaves and seeds. This drug consists the alkaloid. Real use of this drug is diuretic but large dose can bring regarding vomiting

The Indian names of Punarnava	
Languages/Regions/Countries	Names
1) Bengal	Punarnava
2) Gujarati	Vakhakhaparo, Dholia-saturdo
3) Marathi	Tambadivasu, Ghetuli
4) Tamil	Mukarati Kirei
5) Hindi, Sanskrit & Telugu	Punarnava, Raktakunda, Shothaghni, Varshabhu
6) Kanarese	Kommegida
7) English	Hogweed

- **Part used:** Herb, root
- **Description/Habitant:** This Ayurvedic herb is found throughout India. Growing to 70 centimeters in height. It has a large root system and produces yellow and white

flowers. It can be found in many tropical and warm-climate countries.

- **Chemical composition:** Major components are sitosterol, esters of sitosterol, punarnavine, boerhaavia acid, boeravinone, palmitic acid and many other compounds.
- **Parts used:** Whole herb, roots and seeds.
- **Contraindications:** Punarnava is a laxative; dosage should be determined by a qualified medical professional. Children below 12 years of age and pregnant women should not take this herb.

### 1.4 Therapeutic Uses:

- Herb is used as diuretic
- Expectorant
- Stomachic
- Prescribed in the treatment of jaundice
- Given in the loss of digestive power
- Enlargement of spleen
- Used for relieving abdominal pains

### 1.5 Medicinal Uses

1. Punarnava, the spiderlings, is a genus of about 40 species of annual or perennial herbaceous plants in the four o'clock flower family, Nyctaginaceae. The common name refers to the appearance of a spider or spider's web given by the numerous long, slender and interlocking stems of the inflorescences.
2. Punarnava is found in India and is a valuable medicinal plant.
3. Therapeutic use:
4. Punarnava is beneficial in treating obesity.
5. Punarnava is effective in treating a disease called dropsy, a condition wherein excess of watery fluid gets accumulated in the tissues and body cavities. A liquid extract of this plant stimulates urine secretion and discharge.
6. It is also useful in treating Ascites, a condition caused by fluid accumulation in

the abdominal lining and is particularly useful in treating specific types of Ascites caused by certain liver diseases.

7. The roots of the plant help in killing intestinal worms.
8. It promotes mucous removal from bronchial tubes and hence beneficial in treating Asthma. When the paste made out of the roots of this plant, is applied externally on the skin, it forms a beneficial dressing for edematous swellings, ulcers and skin diseases.
9. Other benefits include treatment of anemia, nervous weakness, paralysis, constipation and cough.
10. Studies have revealed that punarnava is an excellent diuretic, anti-inflammatory, mild laxative and is a heart tonic.
11. Punarnava is also used in treating obesity, improving appetite, jaundice, and general fever.

### 1.6 Remedies of Punarnava and its Medicinal Importance

Punarnava in India where it has a long history of use by indigenous and tribal people, and in Ayurvedic or natural/herbal medicine in India. There, the roots are employed for many purposes including liver, gallbladder, and kidney, renal and urinary disorders. Bitter, stomachic, laxative, diuretic, expectorant, rejuvenative, diaphoretic, emetic Root-purgative, anthelmintic, febrifuge, White-laxative, diaphoretic.

Punarnava gives flowers and fruits in rainy season. It has two varieties as described in ayurvedic text i.e. white and red variety of Punarnava. one more variety i.e. blue Punarnava can also be found as mentioned in other ayurvedic text named raja nighantu. It has been mentioned in the ayurvedic text that the white Punarnava variety is what we commonly call Punarnava i.e. *Boerhaavia diffusa* and the red Punarnava variety is *Trianthema portulacastrum* which is generally used to adulterate Punarnava roots. Thus white Punarnava is basically used for the medicinal purpose. The white variety of Punarnava works as all the three dosha (vata,

pitta and kapha) shiamak i.e. it suppresses all the three aggravated doshas whereas the red Punarnava variety aggravates the vata dosha and suppresses the pitta dosha. As a whole both the varieties of punarnava are laghu (light) and ruksha (dry) in properties.

Punarnava also known by the botanical name of red hogweed is a very effective diuretic it works very well on the urinary system and it targets directly the damaged nephrons (kidney's basic functional unit) which get damaged specially in cases of high blood sugar level i.e. in diabetic people. Punarnava speeds up the filtration process of kidneys and flushes out the excessive fluids and other waste products

Punarnava is very effective in treating obesity thus it is a very important ingredient for a variety of patent Ayurvedic medicines used to treat obesity. It also acts as anti-inflammatory drug. It is good for respiratory problems as well as it acts on the kapha dosha and thus suppresses the mucous formation. Thus Punarnava forms an integral part of many ayurvedic medicines that helps curing asthma, dyspnoea and other breathing problems as it helps in the removal of mucus from the bronchial tubes. In conditions like pneumonia or dyspnoea (difficulty in breathing) Punarnava is given along with Vacha (another Ayurvedic herb)

As Punarnava works as a diuretic it can cure the conditions like Anasarca (i.e. generalized body swelling). It can even be used in serious conditions like congestive cardiac problems. One of the Ayurvedic preparation that is used to treat anemia i.e. Punarnava mandoor has punarnava as an integral part .This preparation is used to increase the Hb levels in the body and thus cures iron deficiency anaemia.

Punarnava along with other ayurvedic herbs as Rasna, Shunthi etc. is used to treat swelling in conditions like rheumatoid arthritis. In such cases rasna works as analgesic, shunthi works as amahar i.e. does detoxification and Punarnava relieves the swelling.

Punarnava works as a very good tonic as well in general debilities cases. It works as rasayana for the body as it rejuvenates the body by cleansing it with its unique property of flushing out the mala

(toxins) from the dhatus (body tissues), balances the doshas and opening and nourishing the various body channels so that each and every tissue and cell of the body gets proper nutrition and keeps the body fit and fine.

Punarnava is a very good nerve rejuvenator and it is given in cases of sciatica or nervous weakness or even paralysis condition. Externally also it is used for various purposes as in various panchkarma procedures like swedan (fomentation) where Punarnava roots mainly and punarnava plant as a whole is used to relive pain and swelling.

When Punarnava is used in enemas it works as a purgative and treats flatulence. It works as a mild laxative and it enhances the appetite thus can be given in various gastric troubles including constipation which is a most common trouble faced by people these days.

Punarnava can even be used to treat jaundice. It can be given in cases where intoxication due to serpent and rat bites has occurred. Sometimes fresh root juice of Punarnava is put into eyes so as to get relief from various eye ailments like night blindness and conjunctivitis.

Paste made from Punarnava roots is applied on the injured wounds as it helps drying up the oozing out of that wound.

Also Punarnava can be used as in the form of dressing for various swellings or ulcers. Punarnava is also helpful for many skin disorders. Punarnava is very effective in treating disease like dropsy which is a condition where excess of fluid gets accumulated in the tissues and cavities of the body. Punarnava can also be used to treat ascetic where fluid gets accumulated in abdominal cavity. Mainly it treats the ascites which is caused due to some liver disorder. According to Ayurveda ascites is described as jalodar roga where pradhan dosha is vata which blocks the channels of air within the body thus making the water gets accumulated in the peritoneal cavity of abdomen i.e. between muscles and abdominal skin.

## 1.7 Traditional Uses

- Punarnava has a diuretics, Anti-inflammatory and carminative properties.
- For anti-inflammatory effect, punarnava should use with sunthi.
- Punarnava is also a good Rasayana so useful in Aamavata.
- Punarnava Root is anticonvulsant, analgesic, expectorant, CNS depressant, laxative, diuretic, abortifacient.
- Punarnava has been reported to increase serum protein level and reduce urinary protein extraction in clinical trials in patients suffering with nephrotic syndrome.
- Punarnava is used for local application in the form of poultice or fermentation in oedema.
- Punarnava leaf juice is used in the eyes for topical application.
- Punarnava act as diuretic in dysuria.
- Punarnava roots rubbed in honey are locally applied for cataract, chronic conjunctivitis, blepharitis.
- Punarnava useful in reducing swelling and foul smelling in skin disorders.
- Punarnava is useful in heart disease, anemia, and edema.
- Punarnava leaves vegetable is consumed to reduce edema.

## 1.8 Ayurvedic Applications

White-edema, anemia, heart disease, cough, intestinal colic, kidney disorders; same uses as red.

Red-nervous system, heart disease, hemorrhoids, skin diseases, kidney stones, edema, rat and snake bites; chronic alcoholism, wasting diseases, insomnia, rheumatism, eye diseases, asthma (moderate doses), induces vomiting in large doses, jaundice, ascites due to early liver and peritoneal concerns; urethritis. Leaf juice with honey, dropped into the eyes for chronic ophthalmia.

### 1.9 No side effects have been noted so far.

According to Ayurveda, herbs are taken in combination with other herbs to neutralize the toxicity of one herb with the opposing effect of the other or to enhance the particular effect of one herb with the help of other.

### 2. Conclusion

Punarnava herb is most widely used in treatment of renal and urinary problems. Punarnava is excellent anti-inflammatory and diuretic. It is used as a heart tonic and kidney tonic. It is found throughout the India especially in rainy season. Punarnava is excellent anti-inflammatory and diuretic. It tastes bitter and pungent. The whole plant has medical benefits especially roots. In Ayurveda, Punarnava herb is most widely used in treatment of renal problems and urinary tract infections. Punarnava Himalaya Herb is used to treat jaundice, general fever and obesity. It is also used as anti-inflammatory and diuretic agent. It is used as a heart tonic and kidney tonic. The juice of Punarnava root is useful for the people having night blindness. Externally Punarnava is used to reduce the pain and swelling. It helps to remove mucous from bronchial tubes hence it is effective against asthma. The roots of the plants are useful to kill intestinal worms. One of the best natural herbal cure for respiratory diseases. Recent studies have shown its effectiveness in fever like malaria, jaundice and constipation complaints. Due to its high diuretic properties it is very beneficial in the swelling recovery.

### 3. Reference

- Jain SP. Ethnomedicinal Plants of Jaunsar-Bawar Hills, Uttar Pradesh, India. *J Ethnopharmacol* 1984; 12(2):213-222.
- Anis M. Medicinal Plantlore of Aligarh, India. *Int J Pharmacog* 1994; 32(1):59-64.
- Agarwal RR. Chemical Examination of Punarnava or *Boerhaavia diffusa* Linn. *Proc Acad Sci* 1934; 4:73-76.
- Mudgal V. Studies on Medicinal Properties of *Convolvulus Pluricaulis* and *Boerhaavia diffusa*. *Planta Med* 1975; 28(1):62-68.
- Gaitonde BB. Diuretic Activity of Punarnava (*Boerhaavia diffusa*). *Bull Haffkine Inst* 1974; 2:24.
- Chowdhury A. *Boerhaavia diffusa*- Effect on Diuresis and Some Renal Enzymes. *Ann Biochem Exp Med* 1955; 15:119-126.
- Singh RP. Recent Approach in Clinical and Experimental Evaluation of Diuretic Action of Punarnava (*B. diffusa*) with Special Reference to Nephrotic Syndrome. *J Res Edu Ind Med* 1992; 7(1):29-35.
- Devi MV. Effect of *Phyllanthus niruri* on the Diuretic Activity of Punarnava Tablets. *J Res Edu Ind Med* 1986; 59(1):11-12.
- Mishra JP. Studies on the Effect of Indigenous Drug *Boerhaavia diffusa* Rom. on Kidney Regeneration. *Indian J Pharmacy* 1980; 12:59.
- Chandan BK. *Boerhaavia diffusa*: A Study of its Hepatoprotective Activity. *J Ethnopharmacol* 1991; 31(3):299-307.
- Hansen K. *In Vitro* Screening of Traditional Medicines for Anti-Hypertensive Effect Based on Inhibition of the Angiotensin Converting Enzyme (ACE). *J Ethnopharmacol* 1995; 48(1):43-51.
- Dhar M. Screening of Indian Plants for Biological Activity: Part I. *Indian J Exp Biol* 1968; 6:232-247.
- Sohni. The Antiamoebic Effect of a Crude Drug Formulation of Herbal Extracts against *Entamoeba histolytica* *in Vitro* and *in Vivo*. *J Ethnopharmacol* 1995; 45(1):43-52.
- Antifertility Studies on Plants. Anon: Indian Council Med Res-Ann Rept Director General 1978; 63-64.
- Adesina S. Anticonvulsant Properties of the Roots of *Boerhaavia diffusa*. *Q J Crude Drug Res* 1979; 17:84-86.
- Akah P. Nigerian Plants with Anti-convulsant Property. *Fitoterapia* 1993; 64(1):42-44.
- Olukoya D. Antibacterial Activity of Some Medicinal Plants from Nigeria. *J Ethnopharmacol* 1993; 39(1):69-72.
- Vijayalakshmi K. Nematicidal Properties of Some Indigenous Plant Materials against Second Stage Juveniles of *Meloidogyne Incognita* (Kofoid and White) Chitwood. *Indian J Entomol* 1979; 41(4): 326-331.
- Verma H. Antiviral Activity of *Boerhaavia diffusa* Root Extract and Physical Properties of the Virus Inhibitor. *Can J Bot* 1979; 57:926-932.