

## Studies on utility of *Adhatoda zeylanica* Medic

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The plant *Adhatoda zeylanica* Medic is the member of family Acanthaceae. It is in use since thousands of years in India traditional as well as modern systems of Medicines. Two species of this plant are medicinally important viz., *Adhatoda beddomei* and *Adhatoda zeylanica*. *Adhatoda beddomei* species is found in Kerala and *Adhatoda zeylanica* is growing throughout India. The leaves of these plants are used either alone or in combination with other drugs for preparation of expectorant. It is used as remedy for cough, rheumatism and many disorders. Hence to know the tremendous uses of this plant over many diseases and disorders are considered to study.

*Adhatoda zeylanica* is commonly known as Adulsa, vasatin and adalodakom. This plant is found in sub Himalyan tracks up to an altitude of 1000 meters. In Maharashtra it is especially found in Konkan regions. Besides India it is found in Myanmar, Srilanka and Malaya. Leaves, roots and stem of *Adhatoda zeylanica* are of medicinal value. Leaves can be harvested from the first year of planting but roots are ready to harvest only two years after planting (Plate I).

On the basis of literature and discussion with the tribe people, medicinal practitioners, the information regarding utilization of this plant is presented in this paper.

### **Chemical constituents:**

*Adhatoda zeylanica* contains a number of chemical constituents which are responsible to cure many diseases and disorders. Generally leaves contain more chemicals as pyrroloquinazoline alkaloids, vasicine, vasicol, adhatonine, vasicinone, vasicinolone, vasicinol as given in Indian Herbal Pharmacopoeia 2002. It also contains quinazoline alkaloids as deoxyvasicine, Adhatodine and 1,2,3,9 tetrahydroxy-S methoxy quinazoline, steroidal compound vasa kin, bromohexine and derivatives like BR-227 beta sitosterol, volatile oil, aliphatic alcohol, ketone legnins and resins etc. the total alkaloids and vasicine content is found to be highest i.e. 2.20 and 2.09% in

August and lowest i.e. 0.70 and 0.35% in February. Vasicine is bitter in taste and gets reformed during isolation process as mentioned in supplement to cultivation and utilization of Medicinal plants.

### **Uses:**

The whole plant is having great medicinal importance and also the parts are used as medicine.

### **Leaf:**

Leaf juice is used as an expectorant especially in chronic bronchitis and asthma. It relieves cough and breathlessness. It is also prescribed for local bleeding due to peptic ulcer, piles etc. it gives relief in pyorrhea and in bleeding gums.

Leaf drug is also prescribed in malarial fever, fever caused by pitta and kapha, chronic fever, intrinsic hemorrhage, cough, asthma, leprosy, skin diseases and piles (Sharma, 1996). It is reported to be an expectorant (Atal, 1980), abortifacient (Wakhloo *et al.*, 1979), antimicrobial (Doshi *et al.*, 1983), antitussive (Dhuly, 1999), anticancerous (Kulkarni, 1998).

Important chemical constituent was reported to have bronchodilatory, respiratory stimulant and uterine stimulant effect (Gupta *et al.*, 1977). Vasicinone shows to have bronchodilatory, weak cardiac stimulant and anti anaphylactic action (Bhide *et al.*, 1976).

Leaves are rich in vitamin C., carotene and yield an essential oil. Dried leaves are used in cigarette preparation smoked in asthma and their juice is used against diarrhea and dysentery. Leaves are used for swelling, bleeding of nose, headache and bronchitis.

### **Flowers:**

Flowers improve circulation of blood, used in ophthalmia and have antispasmodic quantities.

### **Roots:**

Roots of this plant are diuretic, useful in bronchitis,