

Aconitum heterophyllum



Family: Ranunculaceae

Local/common names:
Indian Aconite, Atvisha,
Atish, Patish (Hindi),
Pongar (Bhoti)

Trade name: Atis

Profile:

Aconites are among the most used plants in ethno-medicine of the Himalayas. Critically endangered today, *Aconitum heterophyllum* is also the most highly traded plant in India, being used in all traditional systems of medicine prevalent in the country and overseas as well. It is an erect, perennial herb with white, tuberous roots, described in ancient texts as resembling the tusks of a young elephant. The turquoise leaves and the conch-shaped, vibrant, blue flowers make the plant very attractive. The daughter tubers of the plant are generally used in traditional medicine. Ativisha (Aconite), the name in Sanskrit, refers to a group of plants that come under the genus called *Aconitum*. According to Dravyaguna (Ayurvedic Materia Medica), Aconites have been categorized into four kinds based on colour – white (shweta), red (rakta), yellow (peeta) and black (krishna). The first three are less toxic and used in medicines while the last one is very poisonous and also used in medicine, but only after purification. Most raw aconites have to be purified to render them less toxic and more effective as medicine. Unless given in properly controlled doses, they could cause dangerous side effects. This poisonous property leads to it being used as an antidote against snake poison as well.

Habitat and ecology: The plant is common in the alpine and sub-alpine meadows of the region. It is a common herb, now getting rare due to the exploitation. It is a moisture loving species. The plant is common in the alpine and sub-alpine regions of northwest Himalayas and occurs at an altitudinal range of 3000-4500 m. It is found in a wide stretch from Kumaon region in the east, to the Indus valley in the west, mainly in various pockets of Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh, Pakistan and Nepal.

Morphology: The plant grows to a height of up to 1 m. The long stem is erect, cylindrical, yellowish-green and unbranched. The alternate, simple leaves have an ovate blade with a serrate margin, ending in an acute apex and an auricular base clasping the stem. Flowers are bright blue to greenish blue with purple veins in long many flowered peduncles. The five petaled flowers have two small lower petals, two middle round petals and a tubular hood-like upper petal which covers the lower lying petals like a cap. The hood is rounded and broad. The fruit consists of a bunch of five follicles, which are downy when young, but hairless when matured. Each of the follicles splits along the inside, releasing numerous blackish-brown, 3-4 mm long seeds with winged angles.

Distinguishing features: The plant can be distinguished by its rather large greenish-purple, conspicuously darker, veined flowers and by its diversely shaped leaves. The upper leaves are cordate, coarsely toothed and clasp the stem, a leaf form that is unique within the genus. The lowest leaves are long-stalked, round in outline and deeply lobed.

Life cycle: The plant roots remain dormant in the winter from October-November. New shoots sprout with the melting of snow in April-May. The vegetative phase continues till July and the plants start flowering in August. Seed setting takes place in September and the seeds reach physiological maturity by end of September-October.

Uses: It is a reputed medicinal herb. The alkaloid atisine is used as an anti-periodic, aphrodisiac and tonic. It is used in combating debility, diarrhoea, dysentery and acute inflammatory affections. It is also used as an antidote against snake and scorpion bite and treats infectious fever. The drug made from this plant has multiple applications. Possessing cooling and anti-inflammatory properties, it is used to treat fevers, post-fever weakness and various pulmonary ailments, from common cough and throat pain to bronchial congestion. It is also a key ingredient in medicines for treating stomach and digestive disorders, especially diarrhoea and dysentery resulting from an inflammation of

the intestines. In the Central Indian Himalayas, one of the chief usages of the drug is for external application in diseases like neuralgia.

Market rate: Roughly processed roots can fetch amounts up to Rs.1000-2800/- per kg in the market. But due to the lack of an organized supply channel, the rates often fluctuate drastically between Rs.1000-3500/- depending on the quality of the produce and the market demand.