

SCROPHULARIACEAE

Picrorhiza kurrooa Royle ex Benth.

Vernacular names : Beng. & Hindi: Kuru, Kutki; Garh.: Kuruwa; Guj.: Kadu; Kash.: Kaur; Mal., Tam. & Tel.: Kadugurohini, Katukarogani; Punj.: Karru; Sans.: Katuka Katuruhini.

Trade name : Kutaki.

Distribution : INDIA: Himalayas - Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh; CHINA (Yunnan); PAKISTAN and NEPAL.

Habitat : On rocky alpine slopes at altitudes between 2700 and 5000 m.

Population status/Cause for RET : Endangered. Over exploited for its medicinal properties. Exploration trips to the 'Valley of Flowers' National Park has shown an increase in the population of the species, and about 50 plants have been recorded in one sq. metre area on open hill slopes. Cultivated in RRL, Srinagar, High Altitude Plant Physiological Research Centre, Tungnath, Chamoli, Uttarakhand, GBPIHED (Himachal Pradesh) and Forest Department in N. Sikkim.



Picrorhiza kurrooa Royle ex Benth.

Photo Courtesy: P.K. Pusalkar

Description : Root stock elongate, stout, creeping, covered with withered leaf bases. Leaves 5-10 cm long, coriaceous, serrate, base narrowed into a winged sheathing petiole. Scape stout, ascending, with or without bracts below the inflorescence. Spikes 5-10 cm long, many flowered, subhirsute. Bracts oblong or lanceolate. Sepals 5, 4-7 mm long, lanceolate, ciliate. Petals 5-8 mm long, ovate, ciliate. Capsules 1-1.5 cm long, ovoid.

Fl. & Fr.: June - September.

Medicinal properties and uses : The drug Picrorhiza (Greek: *picros* means bitter; *rhiza* means root), obtained as dried rhizomes, consists of cylindrical, dark greyish-brown pieces, usually 3-6 cm long and 0.5-1 cm in diam., longitudinally wrinkled with annulations at tip. The rhizome and root of this plant are credited with bitter, tonic, acrid, cooling, carminative, anti-inflammatory, antiperiodic, hepato-protective, cholagogue, immune-modulating and expectorant. It is used to treat cold, cough, bronchitis, gastric trouble, constipation, fever, intermittent fever, burning sensation, heart trouble, anaemia, leprosy and diseases of spleen.

Both white and black varieties are used in herbal medicines and drugs. The drug is useful in cases of drowsy. It is stomachic, cardiac and cerebral tonic, antipyretic, anthelmintic, laxative in small doses, antiemetic, cathartic in large doses; useful in bilious fever, dyspepsia, urinary trouble, asthma, hiccough, blood circulation, burns, liver complaints, paralysis, epilepsy, ringworm infection, scabies and gout.

Commercial/Ex-Im data : Bulk raw drugs of this plant come from Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Sikkim. It is cultivated on a small scale, but its production is too small to permit commercialization. The collection of the drug is regulated under 'Kuth Act' in Jammu & Kashmir. The State Forest Corporation located at Jammu and Baramulla sells this raw drug. In Uttarakhand, Kumaon Mandal Vikas Nigam, Sahakan Bheshaj Vikrai Sangha and Forest Corporation located at Rishikesh and Haldwani market this raw drug. In Himachal Pradesh, this raw drug is available at crude drug markets located in Chamba, Jogender Nagar, Manali and Kullu. Some quantities of the raw drugs come from Sikkim. Raw drugs of this plant are also sold in the drug markets of Calcutta, Saharanpur, Ranikhet, Lucknow, Varanasi, Amritsar, Delhi and Mumbai. Current market rate of the dried rhizomes and roots of this plant is Rs. 150 to 165 per kg. The plant is popular for its medicinal value in Persian and Arabian countries. The roots and rhizomes are the most sought for its medicinal properties, for which the entire plant is uprooted which makes its population threatened. It is exported from India and

according to IUCN experts 10-24 tonnes are exported every year. Estimated consumption by the domestic herbal manufacturing units, for the year 2005-2006, has been assessed at 416 MT (dry wt.). 10 kg of the plant parts had been seized at seaport, Chennai for attempting to export illegally to Malaysia on 01.10.2002 violating EXIM Policy, CITES and Wild Life (Protection) Act, 1972. Offence case had also been detected at IGI Air Cargo, New Delhi for attempting to export 5 kg of the plant parts to USA.

Adulterants : The transversely striated hollow rhizome apparently looks like those of *Gentianodes kurroo* (Royle) Omer, Ali & Qaiser [= *Gentiana kurroo* Royle - Gentianaceae] and makes a good adulterant to the species in trade.

Legal : Listed in Appendix II of CITES. Included in Negative List of Exports.

References :

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