

Evaluation of seeds of *Celastrus paniculatus* Willd. – A potential medicinal plant of Pharmacopoeia



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Abstract : *Celastrus paniculatus* Willd. (Celastraceae) is a potential medicinal plant extensively used in ayurvedic medicinal systems. The seeds oil of these medicinal plants is used for the treatment of large numbers of diseases. The seeds of this plant were collected from four regions of Jharkhand state and the various constitution and oil were compared with the parameters described in the Ayurvedic pharmacopoeia of Govt. of India. The percentage of oil contents of *Celastrus paniculatus* Willd. ranges from 43.2 to 44.67 % while the contents of the oil mentioned in pharmacopoeia is 45%. The similarities in other contents like foreign matter, total ash, acid insoluble ash, alcohol soluble extract and water soluble extract too is identical. It is, therefore, suggested that the *Celastrus paniculatus* Willd. should be protected and awareness should be generated amongst public private sector for the production of seed oil at cheap rate for medicinal use.

Keywords: *Celastrus paniculatus*, Seed oil, Pharmacopoea, Quality evaluation

Introduction

Celastrus paniculatus Willd. is a large climbing deciduous shrub, yellowish wood, with lenticelled branches. It belongs to family Celastraceae. The plant mostly occurs in sub Himalayan tract up to 6000 ft. It is also found in Central India, Western and Eastern Ghats. It is extending from Rajmahal hills and Chhotanagpur plateau of Jharkhand and Orissa states. It is one of the potential medicinal plants of India. The plant is known in Sanskrit and ayurveda as '*Jyotishmati*'. It is principally a '*Medhya drug*'. In ayurvedic medicine it is used as a brain tonic and also used in treatment of some the nervous disorders. The plant is utilized as ethnomedicine among the tribal people and they call it '*Kujri*', '*Malkangni*', '*Konjri*', '*Kusur*', '*Rangud*' etc. The seeds oil is utilized topically as well as internally among the tribal people ((Jain, 1991). It is also used for bodyache, rheumatism, leprosy, eczema and skin diseases (Asolkar *et al.* 2005; Atal *et al.*, 1978 ; Handa, 1988; Rekha *et al.*, 2005). According to Bhanumathy *et al.*, (2010). the seeds have great potentials as acrid, bitter, thermogenic, emollient, stimulant, intellect promoting, digestive, laxative, emetic, expectorant, appetizer, aphrodisiac, cardio tonic, anti-inflammatory, diuretic, diaphoretic, febrifuge and tonic, abdominal disorders, leprosy, skin diseases, paralysis, cephalalgia, arthralgia, asthma, leucoderma, cardiac debility, inflammation etc. The oil contains fatty acids composition, sesquiterpene alkaloid *viz.* celapanin, celapanigin and celapagin and a number of sesquiterpene esters namely malkanguine- I to VIII and sterol. The present work is based to confirm the contents of quality of seeds and their oil of *Celastrus paniculatus* useful for the use of illness as reported by Department of AYUSH, Ministry of Health and Family Welfare, Govt. of India, New Delhi.

Methodology of works

The seeds of *Celastrus paniculatus* Willd were collected from four different places from the district of Ranchi (Jonha), Gumla (Bishunpur), Dumka (Baghraidih) and Pakur (Satia) and in Jharkhand state. They were collected with the help of native people in the months of December- January. The above seeds sample were brought to laboratory and dried in an oven at 45° C to 50°C. The powdered of the dried seeds was made at 25°C and kept in airtight container. The identity, purity and strength of samples of seeds have been evaluated according to the methods upon which the standards of Pharmacopoeia depend.

Results

The samples were collected from four sites of Ranchi (Jonha), Gumla (Bishunpur), Dumka (Baghraidih) and Pakur (Satia) designated as SS-1, SS-2, SS-3 and SS-4 respectively. The % of foreign matter, the total ash, acid soluble ash, alcoholic soluble extract, water-soluble and oil contents from sample of Ranchi (Jonha, SS-1), Gumla (Bishunpur, SS-2), Dumka (Baghraidih, SS-3) and Pakur (Satia, SS-4) were presented in Table1. The seeds were separated in the laboratory and the color and identical seeds in structure and diameter were recorded (Fig.1). The seeds were processed for the foreign matter, total ash, acid insoluble ash, alcohol soluble extract, water soluble extract and oil contents were studied and presented in Table 1. The table also contains the data available in Ayurvedic Pharmacopoea for comparison to know the purity and strength of the contents of the seeds obtained from four locations of Jharkhand. It has been observed that all parameters are similar with the reported parameters in the Ayurvedic pharmacopoea.

Discussion

In the present investigation, genetic resources of *Celastrus paniculatus* available in Jharkhand has almost standard in quality for the extraction of oil contents for the preparation of ayurvedic medicine at a cheaper cost as the contents of oil of this plant is identical with the contents as per *Ayurvedic Pharmacopoeia*. The mean of samples taken from four different places is about 44.92, which is similar

to 45% described in *Ayurvedic Pharmacopoeia*, Government of India. The above studies have great significant towards understanding of seed samples of the plant occurs in Jharkhand state for bioprospection in perspectives to pharmaceutical standards. The above data analyzed in the present work is most useful for manufactures of herbal drugs and other products based on the *Celastrus paniculatus*.

Table 1. : Identity, purity and strength of samples of seeds

Parameters/ Samples	Foreign Matter (%)	Total ash (%)	Acid- insoluble Ash (%)	Alcohol soluble extractive (%)	Water soluble extractive (%)	Oil contents (%)
<i>Ayurvedic Pharmacopoea</i>	2.0	6.0	1.15	20.0	9.0	45.0
SS-1	2.1	5.1	1.16	18.3	9.1	44.1
SS-2	1.9	5.2	1.17	19.2	8.95	43.2
SS-3	2.2	5.4	1.10	19.6	8.73	44.4
SS-4	1.8	6.1	1.14	19.5	8.5	44.67
Mean	2.0	5.7				44.92

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Fig-1. : Seeds of *Celastrus paniculatus*

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