

Plants used for stupefying fishes by Tharus of Udham Singh Nagar Uttarakhand, India

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ABSTRACT

Tharus population is mainly concentrated in the villages of Udham Singh Nagar district of Uttarakhand. Agriculture is the main occupation of tharus, but fishing is an alternative occupation. They use 14 plant species belonging to 10 families for catching fishes. They have indigenous knowledge about the plants and their parts. They employ different parts of plants as roots (one species), leaves (two species), tubers (one species), stem bark (6 species), whole plant (2 species), fruit pulp (one species), fruit (one species) to stupefy fish. *Millettia auriculata* Baker, *Polygonum serrulatum* Lagasc. and *Xeromphis spinosa* (Thumb.) Keay are the new reports from the area.

Key words : *Xeromphis spinosa*, *Millettia auriculata*, *Polygonum serrulatum*, fish poison.

Stupefying plants are those which are used as fish poison. They may be trees, shrubs, climbers or herbs. The plants or their parts are crushed directly in or outside the water body and then are thrown in stagnant or slow flowing water. The plant or its part has many bioactive chemicals such as saponins, taninns, alkaloids, glycosides, essential oils etc. They act on fishes as stomach poison, contact poison, neuro-poison and respiratory poison, paralyzing the live activity of fishes^{3,9} and losing consciousness. Fishes are thus, stupefied and float in a dazed state. The affected fishes are collected without any adverse change by the

tribals.

Ethnobotanical studies on some plants as fish poison have been done in different parts of this country by several workers¹⁻¹².

However, fish stupefying plants used by Tharus of Udham Singh Nagar district have not been described earlier, therefore, the present study has been taken.

Udham Singh Nagar is 13th district of Uttarakhand which was created in 1996, after separating a plain area of district Nainital. The

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Table-2. Plants used for stupefying fishes

Sl. No.	Botanical Name	Family	Local name	Parts used
1.	<i>Acacia auriculiformis</i> ACunn ex. Benth	Mimosaceae	Akashya	Fruits
2.	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Dhak	Stem Bark
3.	<i>Costus speciosus</i> (Koen) J.E. Smith	Zingiberaceae	Kewa	Tubers
4.	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Ulmaceae	Chilbil	Leaves
5.	<i>Ludwigia perennis</i> Linn	Onagraceae	Jaldhwai	Whole Plant
6.	<i>Madhuca longifolia</i> (Koen.) Mac Bride var. <i>latifolia</i> (Roxb.) Chevaleir	Sapotaceae	Mahua	Stem
7.	<i>Millettia auriculata</i> Baker	Fabaceae	Gauj	Root
8.	<i>Ougeinia oojeinensis</i> (Roxb) Hochr.	Fabaceae	Chajan	Stem Bark
9.	<i>Polygonum serrulatum</i> Lagasc.	Polygonaceae	Panimirch	Whole plant
10.	<i>Sapindus laurifolius</i> Vahl.	Sapindaceae	Ritha	Stem Bark
11.	<i>Schleichera oleosa</i> (Lour.) Oken	Sapindaceae	Kusum	Stem Bark
12.	<i>Shorea robusta</i> Gaertn.	Dipterocarpaceae	Sal	Stem Bark
13.	<i>Verbascum chinense</i> (L.) Sant	Scrophulariaceae	Meno	Leaves
14.	<i>Xeromphis spinosa</i> (Thumb.) Keay	Rubiaceae	Mainphal	Pulp of unripe fruit

district was named after Udham Singh, a great martyr and patriot of the nation. Udham Singh Nagar district lies between 28°43' and 31°27' N latitude and 77°34' and 81°02' E longitude. The district comprises 3055 square km area. An area of 1103 square km of the district is covered by a natural stand of sal forest. The district is bounded on the east by Nepal and Champawat district, on the south by Pilibhit and Bareilly districts, on the north by Nainital district and on the west by Bijnor, Moradabad and Rampur districts. The district lies close to the territory of Nepal, separated by river Sharda. There are four tehsils namely Kashipur,

Kichha, Khatima and Sitarganj. The population of *Tharus* is about 43% of total population of district which is concentrated in the villages of two tehsils Sitarganj and Khatima. *Tharus* are divided into a number of endogamous sects. Majority of tharus belong to Rana sect. The *Tharus* are one of the primitive tribes of India which inhabit the sub-Himalayan tract. Tharus have close association with forests and isolation from the modern civilization.

The climate of Udham Singh Nagar is monsoon type, having rainy, winter and summer seasons. The annual rainfall reaches

up to 424.90 mm. A vast area of the district is low-lying which gets inundated due to flood water. Sharda, Gaula, Kosi, Behgul etc. are the perennial rivers. Ponds, lakes and a few rivulets are also available in the area for fishing occupation. *Tharus* are primarily agricultural community, fishing is their alternate occupation.

Tharus use 14 species of angiosperms as fish poison, belonging to 10 families (Table-1). Out of 14 species, 9 are trees, 4 are herbs and 1 is climber. The stem bark of *Madhuca longifolia* (Koen.) Mac Bride var. *latifolia* (Roxb.) Chevaleir, *Sapindus laurifolius* Vahl, *Shorea robusta* Gaertn., *Butea monosperma* (Lam.) Taub., *Ougeinia oojeinensis* (Roxb.) Hochr., *Schleichera oleosa* (Lour.) Oken, whole plants of *Polygonum serrulatum* Lagasc., *Ludwigia perennis* Linn, tuber of *Costus-speciosus* (Koen.) J. E. Smith, roots of *Millettia auriculata* Baker, leaves of *Verbascum chinense* (Linn.) Sant., *Holoptelea integrifolia* (Roxb.) Planch, fruits of *Acacia auriculiformis* A. Cunn. ex. Benth., fruit pulp of *Xeromphis spinosa* (Thunb.) Keay. are used as stupefying agents by *tharus*. Due to their poisonous effect, the eyes of the fish start burning, hence fish moves to the surface of water, one can pick up the affected fishes without much effort. *Tharu* young ones, men and women, carry out fishing singly or in groups, during all seasons. Three species *Millettia auriculata* Baker, *Polygonum serrulatum* Lagasc. and *Xeromphis spinosa* (Thunb.) Keay. have not been reported in the literature earlier as fish poison, therefore, these are reported as new fish poison plants. *Tharus*

are non-vegetarian and depend upon the fish to fulfil their diet. Sometimes, *Tharus* sale the fishes in weekly market for their earnings.

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