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ETHNOBOTANICAL STUDIES OF *DIOSCOREA HISPIDA* DENNST. IN NALLAMALA FOREST AREA, A.P., INDIA.

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Abstract: *Dioscorea hispida* Dennst. belongs to the family Dioscoreaceae. In many parts of the world it is also called intoxicating yam. It is mainly used as a source of food in Nepal, Indonesia and North east India. It is also reported to have hypoglycemic activity, antitumour activity and analgesic activity. An ethnobotanical study is conducted to document traditional knowledge of native tribe Chenchus of Nallamala hills. It is observed for the first time that, tubers of *Dioscorea hispida* Dennst. are widely used by them as an aphrodisiac. The process of detoxification of tubers followed by them is also different from those followed in other areas.

Keywords: *Dioscorea hispida* Dennst., Chenchus, aphrodisiac, detoxification, Nallamalas. .

INTRODUCTION:

Dioscorea hispida Dennst. is a climber with a prickly stem, 6-10 mm in diameter. Twining is clockwise (to the left). It has fibrous root system, some of which develop into small round tubers when young and elongate as they grow bigger.

It is the only species under the genus *Dioscorea* which most of the leaves have only 3 leaflets. But dioscorin is not detected in yams of Nepal and diosbulbins 1 and 2 are shown to be responsible for the bitterness (1). Dioscorin triggers the fatal paralysis of the nervous system when large fragments of the tuber weighing are ingested (2). Similarly, histamine was reported as the principal allergen, causing mild inflammation and itching, associated with some plants of Dioscoreaceae family (3). The bitter substances in some yam species have been reported as furanoid-norditerpene groups of compounds (4). There are some alkaloid removal processes reported which are like heating/roasting, soaking the tubers in flowing water etc. (5)(6)(7). But the Chenchu tribe of Nallamalas follows a different method.

Previous studies have shown that *Dioscorea hispida* has many uses as medicine, as food source, to prepare poison and many more. From medicinal aspects, the water soluble polysaccharide of the tubers is reported to have hypoglycemic activity (8). Biscuits made from the water soluble polysaccharide extracts of tubers are found to be hypoglycemic (9)(10). The leaves contain the anti-tumour activity due to high phenolics (11) (12).

This study is aimed at documenting ethnobotanical knowledge and potentials of *Dioscorea hispida* in Nallamalas.

II. MATERIALS AND METHODS

A. Study Area

The study was carried out in the Nallamala area of A.P.state, India. The Nallamalas are a section of the Eastern Ghats which are located at the latitude 15°40'41"N and longitude 79°29' 00 E and occupy about area of 6,740 km². Which stretch primarily over Kurnool, Mahabubnagar, Guntur, Prakasam and Kadapa districts of the states of Andhra Pradesh and Telangana.

The average elevation today is about 520m which reaches 1100m at Bhairani Konda(Sikhareswaram) and 1048m at Gundla Brahmeswara.

Climate:

The indigenous population consists of the "Chenchus" and "Lambadas", The Chenchus are a forest dwelling tribe who have remained cut off from the modern world even today. Forming is the primary occupation of the Lambadas in the plateaus while the Chenchus are still hunter gatherers, collect the forest products and sell them for their livelihood. They for the generations have been depending on the forest indigenous medicinal plants to cure their ailments and for the rejuvenation.

B. Data Collection

Usage of *Dioscorea hispida* as traditional medicine was described by the respondents during the course of interaction.

III. RESULTS AND DISCUSSIONS

The traditional Chenchu tribe is confined to Nallamalas interior forest areas. Ethnobotanical studies in this area reveal that the local name of *Dioscorea hispida* is Magasirigadda(Tuber that increases male potency) and used mainly as an aphrodisiac after pre-detoxification. The process of pre-detoxification here varies from those of others. The tubers are boiled in the milk (preferably cow milk) for 30 minutes, the milk is supposed to increase the aphrodisiac potency and removes the toxic principle. The milk is disposed after boiling and tubers are sundried. This process of boiling and sun drying is repeated 3-4 times and finally dried tubers are fine powdered. This powder is daily consumed with milk on empty stomach. This plant is not cultivated but grows in wild throughout the area and used traditionally.



Fig:Tuber, leaves and inflorescence of *Dioscorea hispida* Dennst.

IV. CONCLUSIONS:

Although many aphrodisiac medicinal plants are well known to us, this study based on the interaction shows for the first time the wide usage of *Dioscorea hispida* Dennst. as an aphrodisiac medicine by the Chenchu tribe of Nallamalas. Important precaution before usage is the detoxification. The alternate method of detoxification is described by the Chenchu tribe is also described here. The aphrodisiac nature and active principle involved is to be further investigated to support this study.

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