

## SURVEY, CHARACTERIZATION, DOCUMENTATION AND CONSIDERATION OF SOME SEDGES OF NORTH-EAST BIHAR (INDIA) REGION IN ETHNO-BOTANICAL PERSPECTIVE

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### ABSTRACT

North East Bihar has many rivers such as Ganga, Kosi, Gandak, Kamala etc. These perennial sources of water create seasonal flood and endow remarkable influence on the soil profile and socio-economic configuration of the people living in the area. The region is the homeland of an economically poor, landless, ethnic community called “Mushar” (rat-catchers). The people of the region depended heavily on some local germplasm of sedges consisting of *Cyperus paulustris* (ver. Chichor) and *Scirpus grossus* (ver ‘Kysoor’). Large sized tuber produced by these plants served a potential source of food during the time of scarcity and famine. Recent surveys conducted, have shown that these natural plant resources are becoming rare. An effort has been made to collect, characterise, conserve them followed by scientific documentation, before they are lost finally from the area.

**KEYWORDS:** Collection, Conservation and Documentation, Endangered Sedges, Ethnic Community, Famine Food

### INTRODUCTION

The present study involves two tuber bearing endemic sedges found in the north-east region of Bihar. These are *Cyperus palustris* (ver. Chichor) and *Scirpus grossus* (Ver. Kysoor). The said sedges were predominantly found in the area and have been recognized as the ‘famine food’, the fact which has been documented in A Statistical Account of Bengal Vol. IV by W.W. Hunter (1877) and Bihar & Orissa District Gazetteers (Monghyr) authored by L.S.S. O. Malley (1925).” Unfortunately very scanty informations on these two plants species are available nevertheless, these are very vital for the survival of marginalised community such as ‘Musahars’, and the that too in the seasons of food scarcity. In words of Lackwood – “When I Saw 500 persons chichor hunting in a single marsh, I knew that there was famine in the land.” According to W.W. Hunter – “A man may collect about a six pound a day, with average luck and labour they usually ground into a kind of flour and made into bread or cakes but are also eaten raw.

These sedges have been rightly described as ‘famine thermometers’. A party was digging up the underground the creeping stem of water lily or the sedge bulbs called in the “vernacular chichor” which are eaten to give flavour to the snails and crabs meat.”

Likewise, *Scirpus grossus* is another potential source of food of the poor community and according to Vartak (1981) the tubers of *Scirpus grossus* are sweet, starchy, highly nutritious and also eaten uncooked by some tribals in India. The crops have also found a mention as a Ethno-Biological informations in the Arthasashtra of Kautilya.

Due to annual floods and over exploitation the said valuable germplasms have become scanty in some areas and lost altogether in various other areas.

## MATERIAL & METHODS

The area under study comprises 750 sq. km where periodic survey has been conducted by the research team. The material were collected in the form of tubers and information were gathered through personal communications with the local inhabitants giving special impetus to the ethnic community – the ‘Musahars’. The collected germplasms were grown in the experimental garden of University Department of Botany, These germplasms were taxonomically characterized and tubers were examined chemically for its nutritional values.

Structure Database on these ethnic germplasms have been developed using computational and bioinformatics tools. The species have been conserved through *ex-situ* practices.

### FOLLOWING IS THE DESCRIPTION OF THE GERMPASMS

#### *Cyperus palustris* (ver. Chichor) – Family - Cyperaceae

- Full grown plant reaches the height of approximately 1 meter and gives tufted look.
- Leaves are cylindrical, hollow, grooved and green with parallel venation.
- Large size blackish brown, amorphous, oval, rhizomatous tubers are produced near the base of underground pat.
- The mean length of tuber is 3.52 cm and average diameter has been measured to be 2.25 cm.
- The range of weight of individual tuber varies from 0.5-2.0 gm.
- The chemical compositing of tubers in 100 gm comprises – Protein-5.10 gm, Fat-1.0 gm, Carbohydrate 75.20 gm, Fibre-7.85 gm, Ash-4.35 gm, Water-6.50 gm
- The perusal above data shows that tubers are rich in carbohydrate in addition to some protein, fat, fibre, ash and water.
- The caloric value of these food stuffs has been measured to be 340.

#### *Scripus grossus* (ver Kysoor) – Family - Cyperaceae

- Full grown plant reaches height of approximately 2 meter and gives tufted look.
- Stem is triangular and fleshy.
- Leaf is fleshy and 2 cm wide in middle portion. Parallel venation is present.
- Spike let inflorescence is present having glumes.
- Tubers look back and oval.
- The mean length of tuber is 7.12 cm and average diameter has been measured to be 3.45 cm.
- The range of weight of individual tuber varies from 6.5-8.0 gm.
- The chemical composition of tubers in 100 gm consist of – Protein-4.10 gm, Fat-1.02 gm, Carbohydrate 76.18 gm, Fibre-6.70 gm, Ash-3.50 gm, Water-8.50 gm
- The tubers are thus rich in carbohydrate in addition to some protein, fat, fibre, ash and water.
- The caloric value of these food stuffs has been measured to be 338.

## OBSERVATION AND DISCUSSIONS

The sedges which are endemic to the area once growing predominantly in the region are showing depleted occurrence which will have an extremely adverse effect on the sustenance of some very poor communities as they loosed a prime source of food during the period of famine and starvation. The loss of germplasm is due to fluctuating course of river in the area and also due to overexploitation (Jain, 1995). It is not only the tubers but other plant part are also used for making household article like mat, basket, fishing net, hut roof etc. Apart from these the plant is an excellent fodder. With these intension and two upkeep the socio-economic condition of the present study has been undertaken.

## REFERENCES

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## APPENDICES

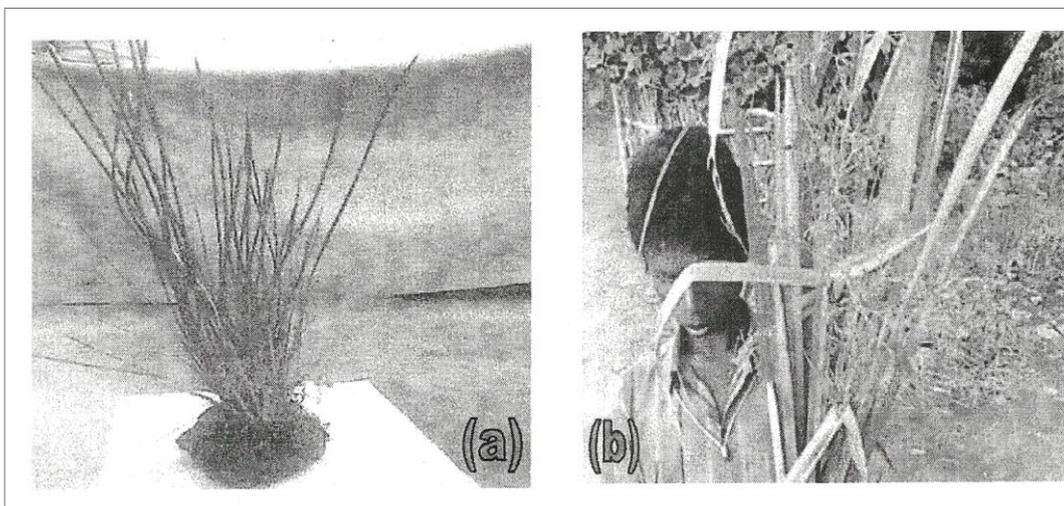


Figure 1(a): A Tuft of Chichor

Figure 1(b): A Local Boy Holding Tuft of Kysoor

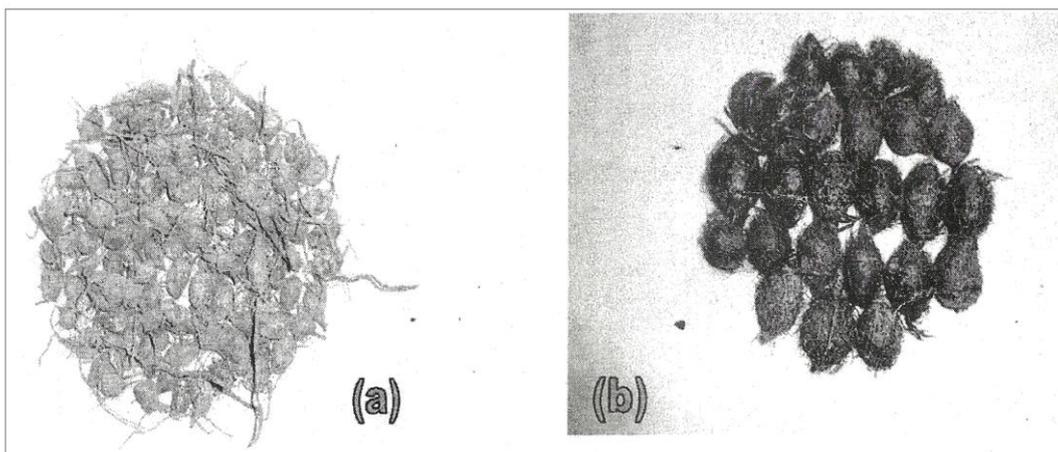
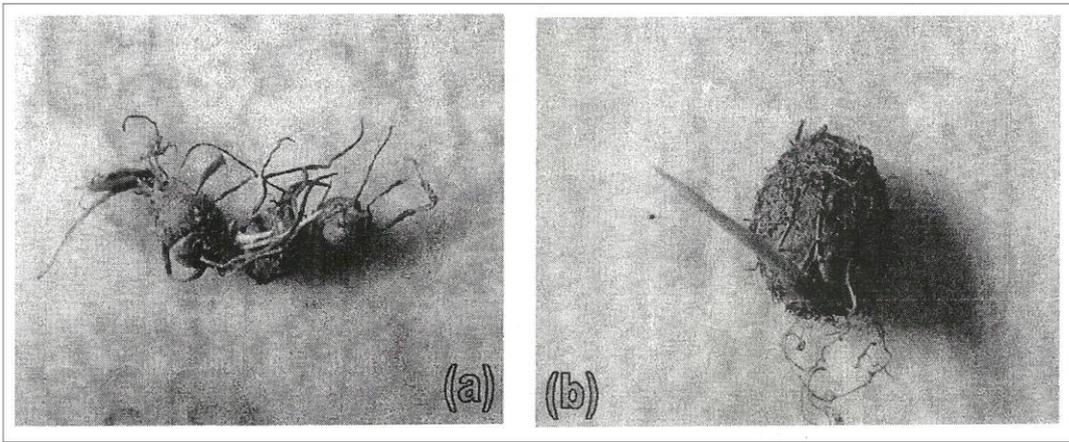


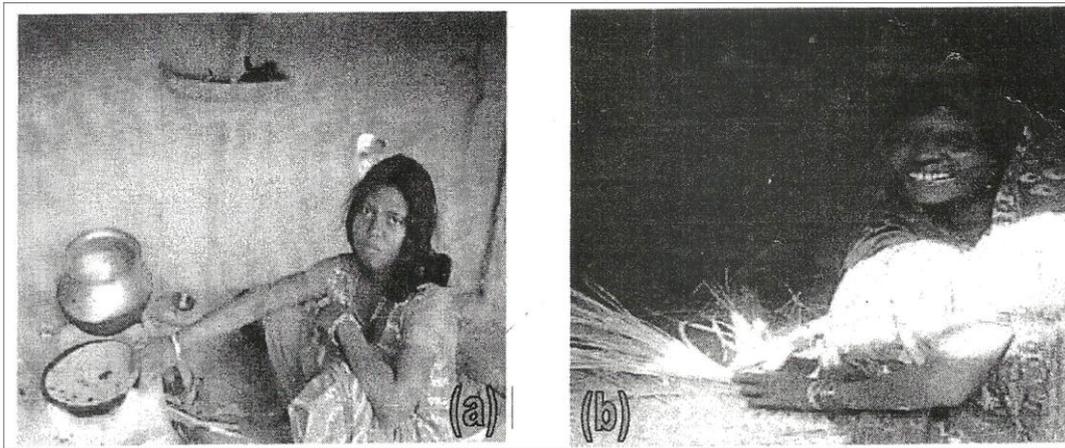
Figure 2(a): Tubers of Chichor

Figure 2(b): Tubers of Kysoor



**Figure 3(a): Germinating Tubers of Chichor**

**Figure 3(b): Germinating Tuber of Kysoor**



**Figure 4(a): A Native Women Baking Bread from Flour of Chichor**

**Figure 4(b): A Native Women Weaving Mat from Plants of Kysoor**