

CLIMBERS USED AS A FOOD PLANT BY THE SANTHAL COMMUNITY

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ABSTRACT

Santhal community is one of the oldest tribe in India. The tribe has a long history of traditional practices for using plant parts as a food and medicine which makes them one of the most ethnic tribe. They usually formulate the herbal drugs from nutraceutical plants available in their near forest and treat various ailments. Their traditional knowledge itself a gem to solve food and healthcare problems. Mainly the problem includes the food scarcity and to cure diseases. The objective of the present study was to conduct ethnobotanical study and collect information regarding specific climbers used as food plants by the Santhal community. Survey was carried out during the period of 2019-2022 in Odisha and Jharkhand states of India through random questionnaire. The results revealed that about 25 common climbers are used as a food by the Santhal. The most common enumerated climbers used as a food are Benincasa hispida, Citrullus lanatus, Cucumis melo, Coccinia grandis, Cucurbita maxima, Cucurbita moschata, Momordica dioica, Momordica charantia, Trichosanthes dioica, Trichosanthes cucumerina, Luffa cylindrica, Luffa aegyptica, Lagenaria siceraria etc. The chapter highlights the food values of locally available climbers to fight against food problems.

Keywords: Santhal community, forest, traditional knowledge, food value, diseases.

INTRODUCTION

The current vision of FAO (Food and Agricultural Organization) is world free from hunger and malnutrition, where food and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner' (FAO 2017; Kumar et al. 2016). The vision itself indicate that after lot of efforts, we are not able to get adequate food for all. About 795 million people still suffer from hunger, and more than two billion from micronutrient deficiencies or forms of over nourishment.

In India, half of population is struggling to find food on their plate, coping with stern starvation and droughts with on the flipper side. India is home to the largest number of hungry people in the world with over 200 million people (FAO 2017; Kumar et al. 2016). The Global Hunger Index (GHI) 2021 ranks India at the 101st position (out of 116 countries), which the index characterizes as "serious" food security situation (www.globalhungerindex.org/india.html). Government of India continuous working on this problem and Government extends additional free food grains scheme through march 2022 On November 24, 2021, India's Union Cabinet approved the extension of the scheme that provides 5 kilograms of food grains per month free of cost for the beneficiaries under the National Food Security Act (IGF 2022).

The above all data and information reveals that whole world is working on food problems but not able to solve it and food security, malnutrition and other allied aspects are visible in root level even there are numbers of food plants are available in wild and described in traditional practices of ethnic community. Keeping this in view, an attempt has been carried out to enumerate the climbers used as a food by the Santhal community to highlights their importance to fight against food problems globally.

Santhal community are an ethnic group native to India. Santhal community holds traditional practices which are done centuries from their ancestors. Traditional practices are a knowledge hub, which is the answer to many burning contemporary questions. Tribal people from all over the world have indigenous traditional knowledge which can be key to today's problem of food scarcity. Currently the food scarcity and microbial diseases are the major problems throughout the world. Tribal people are more depending on forest for their food, economic and medicinal purposes (Dolui et al. 2014). Many food plants are consumed by the tribes collected from the nearby forest in the form of tubers, rhizomes, shoots, flowers, fruits, seeds, etc. as a supplement in their diet.

Among the food plants, climbers are characterized by the weak stem, long and its use external support to grow and carry their weight. These plants use a special type of structure called tendrils to climb and take support (Ali et al. 2016). Climbers are used as food and apart from food values, they have medicinal values too (Mallick et al. 2020). So, the tribal people consumed these wild climbers which can be helpful for treating food and health problems. After the COVID-19, everyone is finding the solution to this pandemic through getting nutraceutical. Many researchers have found out that before people used to have better immunity level compare to present day. Therefore, traditional knowledge from tribal people can be the key to fight against the food problems. Less work has done on climbers used as food plants by Santhal community. Hence, need a proper and sound proof documentation on these food plants.

METHODOLOGY

The survey was carried out during the year 2019-2022 in Odisha and Jharkhand, India. Through a series of semi- questionnaire conducted with Santhal community. The information collected from aged people (35-65 years) regarding the food values of climbers. The plant was identified by the authors with the help of literature (Haines 1925; Saxena and Brahman 1995).

RESULTS AND DISCUSSION

The survey works revealed that Santhal community usually use 25 species of climbers belonging to the 17 genera and 6 families. It was noticed that 14 species represented by 10 genera of family Cucurbitaceae. The most common climbers used as a food belongs to Cucurbitaceae are *Benincasa hispida*, *Citrullus lanatus*, *Cucumis melo*, *Coccinia grandis*, *Cucurbita maxima*, *Cucurbita moschata*, *Momordica dioica*, *Momordica charantia*, *Trichosanthes dioica*, *Trichosanthes cucumerina*, *Luffa cylindrica*, *Luffa aegyptica*, *Lagenaria siceraria* and *Cucumis strignus*. It was observed that 4 climbers belong to Dioscoreaceae followed by Convolvulaceae (2 species), Fabaceae (2 species), Basellaceae (1 species), Caesalpiniaceae (1 species) and Asclepiadeaceae (1 species). Details are listed in Table 1 & Plate 1. Mainly they are consumed as a vegetable.

They have traditional technique to consumed such types of climbers which need a specific mode of cooking due to anti-nutritional factors in some plants. Other researchers have also documented on climbers as a food plant. In 2017, Singh and Kumar reported climbers having food values from Nepal like *Coccinia grandis*, *Cucurbita maxima*, *Gymnema sylvestre*, *Luffa cylindrica*, *Momordica charantia* etc. In 2017, Kumar et al. reported that tubers of *Dioscorea alata*, *Dioscorea bulbifera*, *Dioscorea hispida*, *Dioscorea oppositifolia* are consumed as a food by local tribe in Odisha. Mallick et al. (2020) reported that in tribal areas of Odisha, local community use climbers as food plants like *Momordica dioica*, *Coccinia grandis*, *Ipomoea aquatica*, *Luffa aegyptica* etc. Santhal community has good traditional knowledge on climbers which can be used for many purposes (Figure 1). They consume them for food as well for medicinal purposes.

They are consuming such species which makes their immunity stronger than the people living in city areas. After the COVID-19, people are going back to the traditional food to make their

immunity level strong. Therefore, the traditional knowledge needs a proper documentation on food plants consumed by the tribal people.

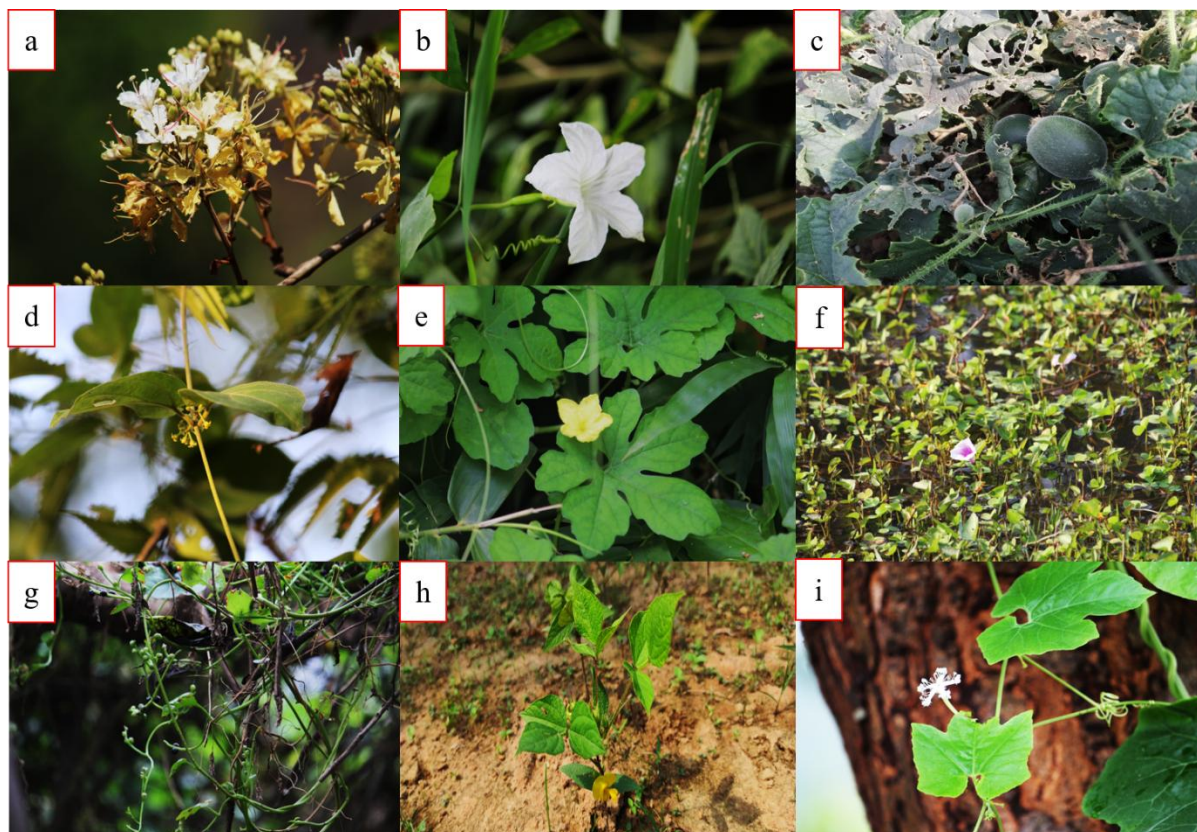


Plate 1: Some common climbers as a food plants used by Santhal community, a) *Bauhinia vahlii*, b) *Coccinia grandis*, c) *Cucumis melo*, d) *Gymnema sylvestre*, e) *Momordica charantia*, f) *Ipomoea aquatica*, g) *Basella alba*, h) *Vigna mungo*, i) *Trichosanthes cucumerina*

Table 1: Some common climbers as food plants used by Santhal community

Botanical name	Family	Common name	Parts used
<i>Bauhinia vahlii</i>	Caesalpinaceae	Siali	Seed
<i>Benincasahispida</i>	Cucurbitaceae	Panikakharu	Fruit
<i>Citrullus lanatus</i>	Cucurbitaceae	Tarbuji	Fruit
<i>Coccinia grandis</i>	Cucurbitaceae	Kundri	Fruit
<i>Cucumis melo</i>	Cucurbitaceae	Bing Dimbu	Fruit
<i>Cucurbita maxima</i>	Cucurbitaceae	Pumpkin	Fruit
<i>Cucurbita moschata</i>	Cucurbitaceae	Kondha	Fruit
<i>Dioscorea alata</i>	Dioscoreaceae	Desi alu	Tuber
<i>Dioscorea bulbifera</i>	Dioscoreaceae	Pita alu	Tuber
<i>Dioscorea hispida</i>	Dioscoreaceae	Bayan aalu	Tuber
<i>Dioscorea oppositifolia</i>	Dioscoreaceae	Panialu	Tuber
<i>Gymnema sylvestre</i>	Asclepiadaceae	Mera-singi	Leaves
<i>Ipomoea aquatica</i>	Convolvulaceae	Kalama Saga	Fruit
<i>Momordica dioica</i>	Cucurbitaceae	Kankad	Fruit
<i>Momordica charantia</i>	Cucurbitaceae	Kalara	Fruit
<i>Rivea hypocrateriformis</i>	Convolvulaceae	Phang	Leaves
<i>Trichosanthes dioica</i>	Cucurbitaceae	Potol	Fruit
<i>Trichosanthes</i>	Cucurbitaceae	Chachindra	Fruit

<i>cucumerina</i>			
<i>Vigna mungo</i>	Fabaceae	Munga	Seeds
<i>Luffa cylindrica</i>	Cucurbitaceae	Dedha jingo	Fruit
<i>Luffa aegyptiaca</i>	Cucurbitaceae	Nenua	Fruit
<i>Lagenaria siceraria</i>	Cucurbitaceae	Lau	Fruit
<i>Cucumis trigonus</i>	Cucurbitaceae	Bhuin dim	Fruit
<i>Butea superba</i>	Fabaceae	Lata palash	Flowers
<i>Basella alba</i>	Basellaceae	Puraiaala	Leaf & stem



Plate 2 : Field survey with Santhal community in study areas

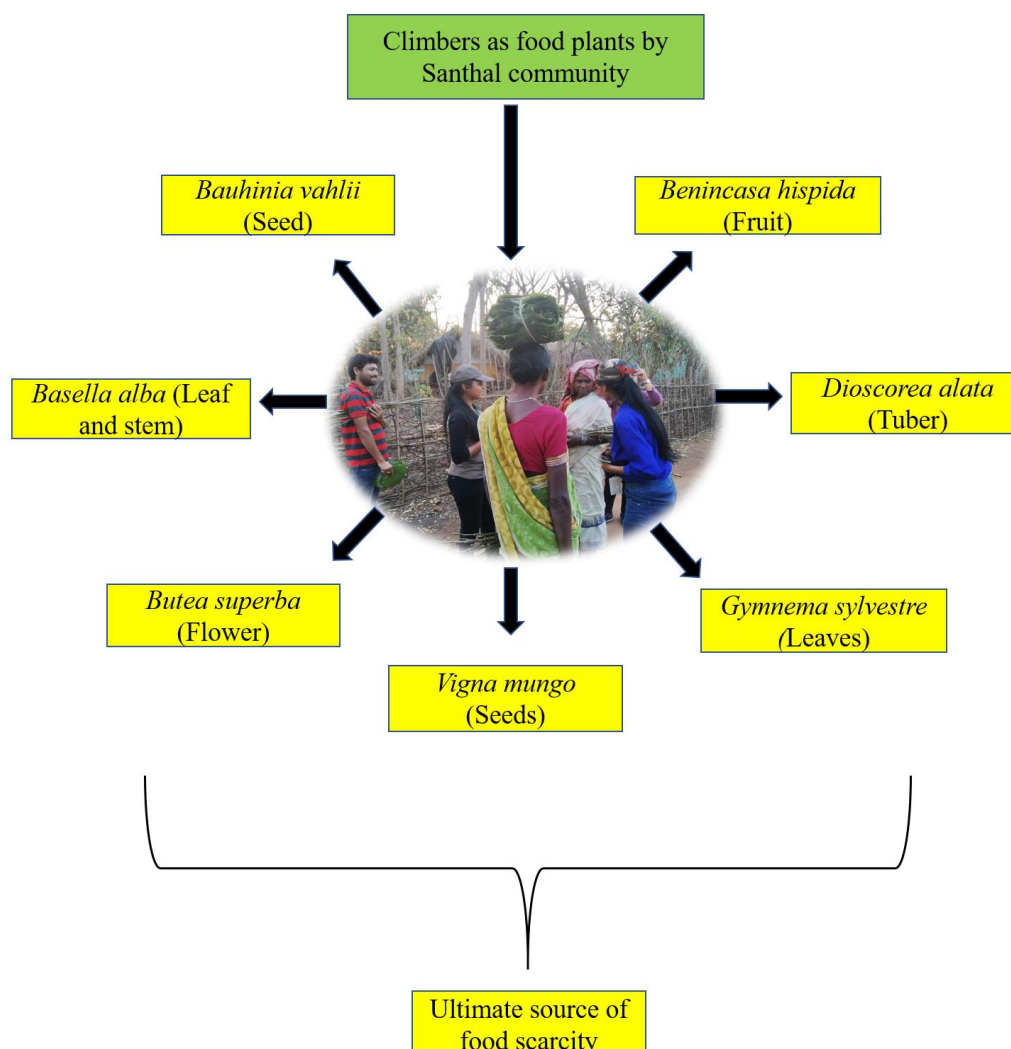


Figure 1: Uses and future aspects of climbers used as a food by Santhal

CONCLUSION

Santhal community has sound knowledge of indigenous traditional practices which can be the panacea keys to food scarcity problems. In this era, the traditional knowledge is diminishing day-by-day due to people are being modernized. In tribal communities, the traditional knowledge is transferred from generations to generations. Among them, Santhal consumed many wild foods collected from nearby forest areas. Among them, climbers play important role and easily available near villages. The present paper highlights the food values of locally available climbers. They could be used to develop future horticultural plants for rural and urban food baskets. Therefore, their whole lifestyle is connected to forest and to understand such knowledge a valid documentation needs to be encountered in a scientific manner.

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