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ORIGINAL ARTICLE

PLANT USED IN 'KHUNKHA'- A FOLK RECIPE OF BORO TRIBE OF UDALGURI DISTRICT, ASSAM

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ABSTRACT

The present study reveals the various plant species used in preparation of 'Khunkha'- a plant based folk recipe among the Boro tribe of Udalguri district. A total of 51 species that belongs to 46 genera and 32 families of Angiosperms along with 1 species of Pteridophyte have been identified. Botanical names, local names and part used had been gathered from Boro tribal community of Udalguri district.
Key words: Khunkha, Boro tribe, plant used, Udalguri.

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INTRODUCTION

Boro tribe of Assam is clan which live in attached with the nature. Their way of living, culture, food habits, language, ritual activities, dresses, folk songs, etc., are anyhow presentation of nature loving race in the world. Their collection of wild vegetables, wild edible fruits, medicinal herbs, methods of fishing, uses of fermentation foods, etc., shows major dependency on nature. The indigenous structure of their living houses, agricultural instruments and various materials used for household were made off materials available in their surroundings. The worshiping of the plant species like '*Euphorbia nerrifolia'* and '*Ocimum sanctum'* represent their love towards the nature. Amongst the diverse attributes of the tribe, their food habits are very under explored. Many traditional food items of the tribe have been recently certified/protected as GI tag by Department for Promotion of Industry and Internal Trade (DPIIT), Govt. of India. Among these 'Ondla, Napham, Narzi, Jou Gwran, Jou Bidwi and Jou Gisi are very native food items in Udalguri district also. Other than these special food items, Khunkha' is also a folk-based recipe prepared from wild edible herbs only once in a year. This food item is prepared by the tribe in the first day of every new year in the month of 'Bwisag' (Mid of April) as per Bangla calendar. In general, this herbal recipe is made off wild herbs numbering 21 or 51 or 101 depending upon the availability of natural habitat of the collected plants. The aim of present study is collection and identification of plants used in the herbal recipe 'Khunkha' among the Boro tribe living the Udalguri district of Assam (Figure 1a-d).

Figure 1. Collection of plant species (a), washing & chopping (b) and serving (c) of Khunkha; (d) Feeding to cow in study area.

In last few decades, many plant explorer of Assam and North East India published research articles on different aspect of the tribe in relation to their indigenous knowledge, their food habits, culture, traditional medicine system, ritual activities, etc. Among those Gogoi and Borthakur (2001), Sarma *et al.* (2001), Basumatary *et al*. (2004), Saikia *et al*. (2010), Boro *et al.* (2011), Narzary *et al*. (2013), Talukdar and Gupta (2014), Baro *et al*. (2014), Das *et al*. (2014), Boro *et al*. (2023), Basumatary *et al*. (2025) were worth mentioning. In Udalguri district, Boro *et al*. (2011) documented 80 species of wild edible vegetables collected by the

tribe from surrounding forest areas. From these literature survey, it has been observed rare explorations regarding various traditional folk recipes of Boro tribe of Assam.

Study area

Udalguri district is located in the central part of the state Assam on the northern bank of the river Brahmaputra, along the foothills of Himalaya. Udalguri was declared as a separate district on 30 October 2003 with Govt. Notification No. GAG (B)-137/2002/Pt/117. The district extended in between the Latitudes of 26º30/N and 27º 0/N and Longitudes of 91º08/E and 92º20/ E. It is bounded by Bhutan and Arunachal Pradesh state in the north, Sonitpur district in the east and Darrang district in the south and Baksa district in the west covering a total area of 1852.16 km^2. The district is inhabited by multi-lingual and multi-cultural groups of people. The Bodo-Kacharis, Rabhas, Garos are the indigenous inhabitant tribe of the district (Endle, 1911). Topographically the district is almost flat with small patches of hills along the Indo-Bhutan border. The district has one wildlife sanctuary and four reserve forests.

MATERIALS AND METHODS

Primary data on plant species were collected through Participatory Rural Appraisal (PRA) exercise following standard method (Boro *et al.*, 2011). This exercise was carried out mainly through participating during the occasion of Bwisagu festival performed by the Boro community in the month of April of every year. About 25 field surveys were carried out during 2024-2025 to different location of district. During each survey, different strategies like group discussion with village head, herbal practitioners, elderly persons and forest transect walk with some villagers had been followed for secondary data. Secondary data also consulted through survey of various published literatures. A thorough local market survey also done to each market available within a particular blocks or circle or adjacent to forest village to verify availability of product arriving in the markets just before the day of first day of Bohag month (mid of April).

All the plant specimens collected from the field survey were prepared Herbarium specimens following standard techniques (Jain & Rao,1977). Identification of the plant specimens were made by comparing field observation and description with authentic literatures (Boro, 2017; Barooah & Ahmed, 2014; Borthakur *et al* 2018; Chowdhury, 2005; Kanjilal *et al*, 1934; 1938; 1939; 1940) and counter checked, confirmed by consulting authenticated herbarium voucher specimen available with Department of Botany, Tangla College, ASSAM, and GUBH, G.U. All the plant species identified have been kept in the college for future reference. Nomenclatures have been checked with recent available literatures in the library of Botanical Survey of India, Shillong and cross checked with the help of online websites like www.worldfloraonline.org, www.theplantlist.org and www.ipni.org.

RESULTS AND DISCUSSION

The folk recipe 'Khunkha' is made off 51 plant species that were collected by Boro tribe of Udalguri district. These plant species were belonged to 47 genera under 32 families including one pteridophytic species. Out of 32 families, Solanaceae is the largest with 4 species under 3 genera. The only pteridophytic species *Diplazium esculentum* was one of the major

constituents of the recipe. Without this species the recipe is incomplete. Other most important plants the recipe were *Alpinia nigra, Artocarpus heterophyllus, Bacopa monnieri, Centella asiatica, Clerodendrum serratum, Curcuma longa, Hauttuynia cordata, Mangifera indica, Moringa oleifera, Musa balbisiana, Paederia foetida, Pygmaeopremna herbacea, Piper longum* and recognized as important medicinal plants of Assam (Basumatary *et al*., 2025). Several species like *Acmella paniculata, Amaranthus spinosus, Amaranthus viridis, Antidesma acidum, Centella asiatica, Colocasia esculenta, Crassocephalum crepidiodes, Drymaria diandra, Ipomoea aquatica, Oxalis corniculata, Polygonum posumbu, Portulaca oleracea, Solanum indicum* and *Solanum nigrum* were widely used seasonal vegetables herbs among the tribes of Assam (Baruah, 2015; Chowdhury, 2005). Out of 51 species, 8 species like *Allium cepa, Allium sativum, Capsicum frutescens, Curcuma longa, Eryngium foetidum, Murraya koenigii, Piper nigrum, Zingiber officinale* were daily used spices among the tribe. Majority of plants used in the folk recipe were herbs (34 species), shrubs (5 species), trees (7 species) followed by 5 lianas plant species.

Table 1. List of plants used in 'Khunkha' recipe

Sl. No.	Name of Taxon	Family	Habit	Local name	Plant part(s) used
1	*Acmella paniculata* (Wall. *ex* DC.) R. K. Jansen	Asteraceae	H	Jari	Leaves
2	*Allium cepa* L.	Liliaceae	H	Sambram gwja	Whole plant
3	*Allium sativum* L.	Liliaceae	H	Sambram gufur	Whole plant
4	*Alocasia acuminata* Schott.	Araceae	H	Thaso	Tender leaves
5	*Alpinia nigra* (Gaertn) Burt.	Zingiberaceae	H	Tharai	Young shoots
6	*Amaranthus spinosus* L.	Amaranthaceae	H	Khuduna	Leafy twigs
7	*Amaranthus viridis* L.	Amaranthaceae	H	Danga	Leavy twigs
8	*Amorphophallus bulbifer* (Schott) Bl.	Araceae	H	Olodor	Leavy shoot
9	*Antidesma acidum* Retz.	Phyllanthaceae	H	Laphasaikho	Leaves
10	*Artocarpus heterophyllus* Lam.	Moraceae	T	Khanthal	Young fruits
11	*Bacopa monnieri* (L.) Penneli	Scrophulariaceae	H	Bhramhi	Whole plant
12	*Basella alba* L.	Basellaceae	L	Mefrai	Leafy twigs
13	*Brassica oleracea* var. *capitata* L.	Brassicaceae	H	Kobi	Leaves
14	*Capsicum frutescens* L	Solanaceae	S	Fanlow	Fruits
15	*Centella asiatica* (L.) Urban	Apiaceae	H	Manamuni geder	Whole plant
16	*Chenopodium album* L.	Chenopodiaceae	H	Buthua	Leafy twigs
17	*Clerodendrum serratum* Spreng.	Verbenaceae	S	Khunkha	Leaves

18	*Colocasia esculenta* (L.) Schott.	Araceae	H	Thaso gwswm	Tender leaves
19	*Crassocephalum crepidiodes* Benth.	Asteraceae	H	Phabwi	Tender leaves
20	*Curcuma longa* L	Zingiberaceae	H	Haldi	Rhizome
21	*Dillenia indica* L.	Dilleniaceae	T	Thaigir	Fruits
22	*Diplazium esculentum* (Retz.) Swartz	Woodsiaceae	H	Dinkhia	Circinate Leaves
23	*Drymaria diandra* Bl.	Caryophyllaceae	H	Jabsri	Whole plant
24	*Enhydra fluctuans* Lour.	Asteraceae	H	Alaisi	Leafy twigs
25	*Eryngium foetidum* L.	Apiaceae	H	Gongar thunia	Leaves
26	*Garcinia pedunculata* Roxb.	Clusiaceae	T	Thaikha	Fruits
27	*Hauttuynia cordata* Thunb.	Saururaceae	H	Maisundri	Leaves
28	*Ipomoea aquatica* Forsk.	Convolvulaceae	L	Kolmou	Leavy twigs
29	*Lasia spinosa* Thwaites	Araceae	H	Sembra	Leafy shoot
30	*Leucas plukenetii* (Roth) Spreng.	Lamiaceae	H	Khasinsa	Leafy twigs
31	*Lippia javanica* Spreng.	Verbenaceae	S	Bwrmadari	Leaves
32	*Mangifera indica* L.	Anacardiaceae	T	Thaijou	Young fruits
33	*Mentha spicata* L	Lamiaceae	H	Pudina	Leaves
34	*Moringa oleifera* Lam.	Moringaceae	T	Sojana	Leaves
35	*Murraya koenigii* (L.) Spreng.	Rutaceae	S	Nwrsing	Leaves
36	*Musa balbisiana* Colla	Musaceae	H	Thalir bhim	Shoot
37	*Ocimum tenuiflorum* L.	Lamiaceae	H	Thulunsi	Leaves
38	*Oenanthe javanica* (Bl.) DC.	Apiaceae	H	Thodor	Tender leaves
39	*Oroxylum indicum* (L.) Vent.	Bignoniaceae	T	Kharong	Tender leaves
40	*Oxalis corniculata* L.	Oxalidaceae	H	Singri	Whole plant
41	*Paederia foetida* L.	Rubiaceae	L	Khifi bendwng	Leaves
42	*Physalis minima* L.	Solanaceae	H	Gangothuba	Tender leaves
43	*Piper longum* L.	Piperaceae	L	Simfri	Fruits
44	*Piper nigrum* L.	Piperaceae	L	Jathi jalu	Fruits
45	*Polygonum posumbu* Wall.	Polygonaceae	H	Angkham khalai	Tender leaves
46	*Portulaca oleracea* L.	Portulacaceae	H	Hangsw grama	Whole plant
47	*Psidium guajava* L.	Myrtaceae	T	Semfrem	Tender leaves
48	*Pygmaeopremna herbacea* Roxb.	Verbenaceae	H	Kheradaphini	Whole plant
49	*Solanum indicum* L.	Solanaceae	S	Khunthai	Fruits
50	*Solanum nigrum* L	Solanaceae	H	Mwisung	Leavy twig
51	*Zingiber officinale* Roscoe	Zingiberaceae	H	Haigeng	Rhizome

Mode of preparation

The collected herbal ingredients were thoroughly washed with clean water, then all leafy herbs were made in pieces by hand. This herbal recipe was cooked outside the common kitchen in a large iron pan. At first, mustard oil is added to the hot pan and then spices were cooked for sometimes. Then all the ingredients of the recipe were added till fully cooked. This herbal recipe was served hot. It was feed to cows mixing with rice before human consumption. It was believed that the consumption of this herbal recipe is an antidote against the various diseases over the year.

CONCLUSION

The present study provides a brief documentation about the 51 species of herbal plants used in preparation of Khunkha- a folk recipe among the Boro tribe of Udalguri district of Assam. This herbal recipe 'Khunkha' is a community based where the ingredients are collected by groups of community from wild habitats. So large number of each species are collected from its natural habitat which concern about diversity loss. Other anthropogenic activities that lead to destruction of habitats of these wild herbs were also prominent in the district. On the other hand, this traditional knowledge is seen rarely used among the modern generations of the tribe. So, compilation of the present study was very necessary.

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