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Research Article

Indigenous Traditional Knowledge of Preparation of Marcha Starter Culture of Jaanr and Raksi by Some of the Local Tribal Communities of Kalimpong and Darjeeling Districts of West Bengal, India

Pramesh Khawash[a], Ujwal Bhattarai Sharma[a], Sapana Roy[a], Sonam Gyeltshen[a], Pramodh Sapkota[a], Nehal Sunar[a], Nawraj Chhetri[a], Anushka Rai[a], Saran Kumar Gupta[a], Sajeed Ali, Ritu Rai[c] and Pranay Bantawa[a]*

[a]Department of Botany, Kalimpong College, Kalimpong, West Bengal, India. 734301.
[b]Regional Research Station (Hill Zone), Uttar Banga Krishi Viswavidyalaya, Kalimpong, West Bengal. 734301
[c]Department of Botany, Parimal Mitra Smriti Mahavidyalaya, Malbazar, Jalpaiguri, West Bengal, India.735221.

Abstract

Present paper investigates the traditional knowledge of some of the local tribes in Kalimpong and Darjeeling districts of West Bengal on the preparation of starter cultures, locally known as "Marcha", for the preparation of finger-millet based local alcoholic beverage called Jaanr or Chhyang and also Raksi. The study highlights the ethnobotanical significance, the variety of plants used, and their roles in the fermentation process. Fieldwork and interviews with tribal elders and practitioners were conducted to document this invaluable cultural heritage.

Keywords: Marcha, Jaanr, Raksi, Tribals, Cultural harmony, Plant resources

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Introduction

The district of Darjeeling is situated between 26º 27' and 27º 13' N latitude and 87º 59' and 88º 53' E longitude, forming a significant part of the eastern Himalayas. Covering a total area of 3254.7 square kilometers, the district includes 2417 square kilometrers of hilly terrain with altitudes ranging from 130 metres (at Sukana) to 3670 metres (at Phalut) (Rai and Bhujel, 2002; Roy and Saha, 2019). On the other hand, Kalimpong is situated between 26º 51' and 27º 12'N and 88 º 28' and 88 º 53' E longitude. The area is predominantly mountainous, with elevations ranging from 91 metres in the plains to 3000 metres near the shared border with Sikkim and Bhutan (Anon, 2023).This region supports a vast array of plant diversity, with many species holding religious, socio-cultural, and medicinal significance (Chhetri and Rai, 2018).

In addition to being a rich source of plant diversity, the Eastern Himalayas are also home to a large number of tribal and ethnic groups (Bantawa and Rai, 2009) such as Lepcha, Limbu, Tamang, Sherpa, Bhutia etc., while maintaining their rituals, dialects, traditions, and traditional wisdom, these communities live in harmony with one another (Chettri and Chowdhuri, 2018). West Bengal's Darjeeling and Kalimpong districts are thriving cultural mosaics that are home to a wide range of ethnic populations, such as the Sherpas, Bhutias, Nepalis, and Lepchas. These communities have a rich ethnobotanical history, using the many plant resources (Chhetri and Rai, 2018) in the area for ritual, gastronomic, and medicinal uses. Their traditions and customs are closely linked to the natural world, demonstrating a great reverence for it. Festivities like Losar, Dashain, and Tihar are widely observed, showcasing customary dancing, music, and food. These festivities not only serve as a means of cultural expression but also reinforce community bonds and the preservation of their unique cultural identities. In Northern Bengal various ethnic communities prepared various herbal alcoholic drinks (Chowdhuri, 2012)

Jaanr and Raksi hold significant cultural and social importance in the lives of the ethnic communities in the Darjeeling and Kalimpong districts of West Bengal. Jaanr, a traditional cereal based alcoholic beverage, and Raksi, a distilled alcoholic beverage, are integral to various social and religious occasions of various ethnic groups of Nepali community. They are consumed during festivals, weddings, and community gatherings, symbolizing hospitality and camaraderie. Jaanr, often regarded as a purifier of

* ***Correspondence*** - bantawapranay@rediffmail.com

spirit and body, is central to many rituals, from birth to death ceremonies. Raksi, known for its potent nature, is also used in traditional medicinal practices and rituals conducted by shamans. These beverages are not just part of the daily diet but also play a crucial role in maintaining and celebrating the cultural heritage, social bonds, and traditional knowledge of these communities.

Nepali alcoholic beverages are mainly categorized into two types: fermented (commonly known as jaanr) and fermented and distilled (referred to as raksi) (Bhusal, 2017). Raksi, scientifically recognized as alcohol, originates from jaad, earning it the nickname “mother of all raksi.”

The preparation of alcoholic beverage involves a starter culture, often called "Marcha" (Tamang and Sarkar, 1995), which is crucial for the fermentation This study aims to document the various plants used in the preparation of this starter culture and understand their roles and significance in traditional brewing practices.

Materials and Methods

Field surveys were conducted in various villages across Kalimpong and Darjeeling districts (Table 1.) during June, 2023 to May, 2024. Structured interviews and participatory observations were employed to gather information from tribal elders and traditional brewers. Herbarium specimens of the plants used were collected and identified with the help of various literatures (e.g., Hooker, 1973, Prain, 1903; Polunin & Stainton, 1997) etc.

Table 1. Places where surveys were carried out.

Sl. No.	District	Localities	Latitude/Longitude
1	Darjeeling	SungmaT.E.	26.9381°N&88.1788°E
2		Mirik(nearlake)	26.8908°N &88.1825°E
3		SukhiaPokhri	26.9984°N &88.1669°E
4		Maneybhanjyangbazar	26.9879°N &88.1209°E
5		Rimbikbazaar	27.1182°N &88.1084°E
6		Sonada	26.9599°N &88.2680°E
7		Lebong	27.0615°N &88.2765°E
8		Teestabazaar	27.0662°N &88.4246°E
9	Kalimpong	Lava	27.0863°N &88.6615°E
10		Loleygoan	27.0207°N&88.56501°E.
11		Gorubathan	26.9542°N &88.6952°E
12		Bindu(Jaldhaka)	27.0977°N &88.8713°E

Results

In the present study, a total of 12 plant species were identified as being used in the preparation of Murcha/Marcha across 12 localities in the Darjeeling and Kalimpong districts of West Bengal, India (Table 2.). Among these, 11 are Angiosperms and one belongs to the Pteridophyta group. Specifically, 7 species belong to dicotyledonous families, 4 species to monocotyledonous families, and 1 species to the Pteridophyta group.

Many of these plant species are sourced from local forests, indicating their natural availability in the region. Additionally, some plants, such as *Oryza sativa* (rice), *Hordeum vulgare* (barley), *Zingiber officinale* (ginger), and *Piper nigrum* (black pepper), are cultivated by local farmers. On the other hand, dry chili (*Capsicum annum*) is not locally sourced or cultivated; instead, it is purchased from the local market.

This diverse collection of plants, both wild and cultivated, underscores the blend of traditional knowledge and agricultural practices in the preparation of Murcha/Marcha. The use of locally available resources, along with market purchases, reflects the community's adaptive strategies to meet their needs for this preparation.

The collected plant materials are cleaned, dried, and ground into a fine powder, a similar procedure reported elsewhere (Ghosh et al., 2014). This powder is then mixed with previously fermented materials to form small cakes or balls, which are dried and stored for future use. These starter cakes are added to cooked cereals to initiate the fermentation process, resulting in Jaanr.

Table 2. Plants used in Murcha/Marcha (starter culture) reparation.

Sl. No.	Botanical Name	Family	Local Nepali Name	Parts used	Role
1	*Milletia pachycarpa* Benth.	(Fabaceae)	Kurkus/Aatako Tita	Leaves	Enhances fermentation and imparts a unique flavour
2	*Cinnamomum tamala (Buch. Ham.)* T. Nees & Nee	Lauraceae	Tejpata	Leaves	Acts as a preservative and adds aromatic flavour
3	*Zingiber officinale* Roscoe	Zingiberaceae	Aduwa	Rhizome	Facilitates fermentation and enhances taste
4	*Piper nigrum* L.	Piperaceae	Golmarich	Seeds	Adds pungency and aids in fermentation
5	*Piper longum* L.	Piperaceae	Pipla	Fruits	Enhances the flavour profile and aids digestion
6	*Hordeum vulgare* L.	Poaceae	Jau	Seeds	Provides enzymes necessary for starch breakdown
7	*Saccharum spontaneum* L.	Poaceae	Kaans/Iksho	Stem	Adds sweetness and helps in fermentation
8	*Oryza sativa* L.	Poaceae	Dhaan/Chamal	Seeds	Primary substrate for fermentation
9	*Pteris aspericaulis* Wall. ex J Agardh	Pteridaceae	Pire unyu	Leaves	Drying and covering
10	*Buddleja asiatica* Lour	Buddlejaceae	Bhemsen Pati	Root, Bark and Leaves	Flavouring and balancing the microbiota
11	*Capsicum annum* L.	Solanaceae	Lamche Khorsane	Fruit (dry condition)	Balancing microbiota, preservation and adding pungency
12	*Plumbago zeylanica* L.	Plumbagineceae	Chitu	Root	Enhance flavour and *balancing the microbiota*

The various plant parts, which have been previously collected and dried, are placed in a wooden mortar, locally called “Okhali”, crafted from the tree trunk wood of "Khamari" (*Gmelina arborea*). These semi-processed plant parts are manually pounded using a wooden pestle, locally called Musli, made from the trunk wood of "Rajbriksha" or "Amaltas" (*Cassia fistula*). The mixture is pounded continuously with the Musli until it reaches a greenish, powdery texture. The base medium or flour, which is to be mixed with the powdered plant parts, is produced by grinding 2-3 kg of rice grains at a time. A similar processing method was observed in Nepal (Deokota and Chhetri, 2010). The rice grains are soaked in tap water for approximately 4-6 hours or typically overnight, then semi-dried in the sun the following morning, and subsequently ground using a wooden thresher, or Dhiki. The resulting powder is collected and sieved using a "Chalni" made of wire mesh, with any coarse particles being returned to the Dhiki for

additional grinding. This process is repeated until a fine white powder or flour is obtained. Finally, the flour is transferred to a metallic bowl until further use. For every kilogram of rice flour, approximately 300 grams of previously processed plant powder is mixed with water and kneaded into dough manually. This dough is then shaped into different forms, particularly small circular cakes, about 6-8 cm in diameter and 1-1.5 cm in thickness, by pressing them in the palms of the hands. A small amount of start

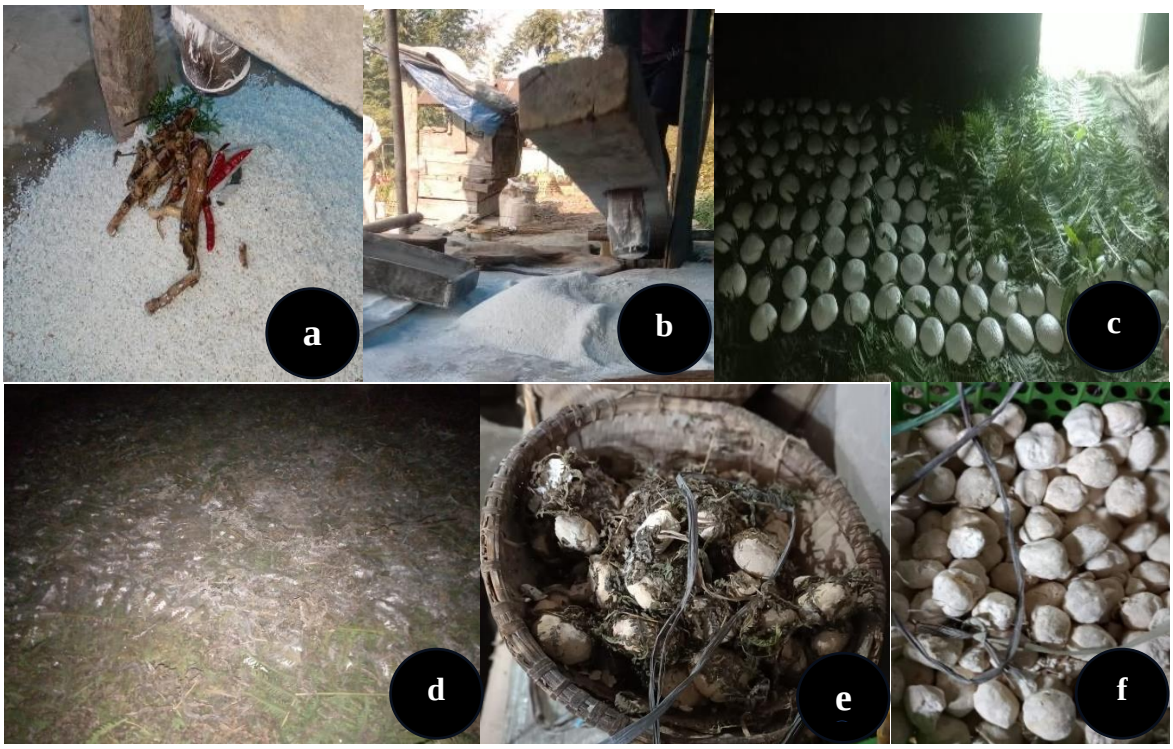

Figure 1. Different stages of Murcha/Marcha preparation. (a) Preparing rice grains with dried chilli before grinding in Dhiki. (b) Grinned rice grain (riceflour) (c) Raw Murcha/Marcha just before drying on Pire Unyu (d) Drying Murcha/Marcha after covering with the leaves of Pire unyu (e) Completely dried Murcha/Marcha stored in Dalo(bamboo basket) and (f) Murcha/Marcha just before its use.

marcha from a previous batch is sprinkled on the cakes, which are then left to ferment. The cakes are spread on "Nanglo" or winnowing trays made from bamboo to dry in the shade. Before placing the wet cakes on the "Nanglo," the trays are first covered with leaves of "Pire unyu" (*Pteris aspericaulis*). The marcha is then dried on top of these leaves. At night, the trays with the marcha cakes are placed on wooden planks about 2.5-3 metres above the fireplace for drying. Once fully dried, the cakes become hard and whitish with a slightly greenish mosaic tinge (Fig.1.f). The fermentation time varies with the season, typically being slower in the winter. After drying, the fermented cakes are collected in shallow semi-conical bamboo baskets (dalo) and stored in shaded conditions before use in brewing. They can be stored for about a month or two and used as needed. Marcha cakes are prepared by certain ethnic families only for personal brewing of Jaanr and Raksi, and in Nepal, any excess or leftover marcha is sometimes sold or bartered for other household items like vegetables, cereal grains, dried meat, or tobacco (Deokota and Chhetri, 2010) (The entire process is depicted in Fig. 1).

Discussion

The use of diverse plant species in the preparation of starter cultures for Jaanr highlights the extensive ethnobotanical knowledge possessed by the local tribes. Each plant contributes specific properties that aid in fermentation, preservation, and flavour enhancement, showcasing a sophisticated understanding of natural resources. This traditional knowledge is passed down through generations and plays a vital role in the cultural identity of these communities. Many indigenous tribal communities of Darjeeling and Kalimpong districts of West Bengal have not adopted modern experimentation, preferring to adhere to traditional methods for preparing local liquor. Therefore, it is imperative to

document and support the preservation of these traditional practices of marcha preparation among ethnic groups before they fade into obscurity.

Conclusion

The traditional preparation of Jaanr by the local tribes involves the use of various locally sourced plants, each with a specific role in the fermentation process. Documenting these practices not only helps preserve cultural heritage but also provides insights into potential new applications of these plants in modern brewing and fermentation industries. Continued research and preservation efforts are essential to maintain this rich ethnobotanical knowledge.

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