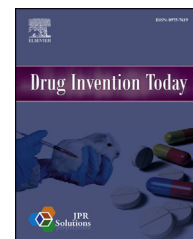


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Review Article

Ethno medicinal value of various plants used in the preparation of traditional rice beer by different tribes of Assam, India



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ABSTRACT

Rice beer has always been an integral part of daily life in Assam. Rice beer in Assam is used in religious ceremonies as well as festivals. North–East India is inhabited by many indigenous tribes and as a part of their socio-cultural life, most of these tribes prepare their own household liquors, mostly using rice grains as the substrate. In addition, each of the tribes also prepares their own unique starter cultures to carry out fermentation, and each type is a mixture of different parts of various plant species. The paper reflects the rich ethno medicinal values of the herbs used in the preparation of rice beer. The various plants used by Bodo, Karbi, Ahom, Deori, Rabha, Mising and Sonowal Kachari tribes of Assam in the preparation of traditional rice beer or liquor have been reported in this article along with their ethno medicinal use. This review gives an overview of some important medicinal plants with their medicinal activities which are traditionally used in Assam for preparation of rice beer.

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1. Introduction

Assam is a north-eastern state of India. It is located south of the eastern Himalayas, Assam comprises the Brahmaputra and the Barak river valleys along with the Karbi Anglong and the North Cachar Hills with an area of 30,285 square miles (78,438 km²). Assam is surrounded by six of the other Seven Sister States: Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya. With the “Tropical Monsoon Rainforest Climate”, Assam is temperate (summer max. at 95–100 °F or 35–38 °C and winter min. at 43–46 °F or 6–8 °C) and experiences heavy rainfall and high humidity. The climate is characterized by heavy monsoon downpours

reducing summer temperatures and affecting foggy nights and mornings in winters, frequent during the afternoons. Spring (Mar–Apr) and autumn (Sept–Oct) are usually pleasant with moderate rainfall and temperature.

Assam is land of many cultures, tribes and religions. Assam is inhabited by number of ethnic tribes characterized by their native languages, rituals, costumes and housing patterns. Rice beer is a traditional alcoholic beverage consumed on a daily basis by various ethnic tribes of Assam. This alcoholic beverage is believed to possess many medicinal and therapeutic properties possibly contributed by various indigenous herbs used in starter culture cake preparation. All of the tribes prepare their indigenous alcoholic beverages at

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Table 1 – The different herbs used in the preparation of Jou bishi.

Sl no.	Scientific name	Local name	Family	Part used	Ethno-medicinal use
1	<i>Clerodendrum viscosum</i>	Dhapat tita	Verbenaceae	Leaves, roots	Leaf juice is used for fever, cough, dysentery, stomach pain. Leaf extract is used externally in ulcer due to scabies. Bark, flower and roots are used for skin diseases.
2	<i>Oryza sativa</i>	Dhan	Poaceae	Rice grain	Rice-wash water is used in diarrhoea and dysentery.
3	<i>Scoparia dulcis</i>	Senikuthi	Scrophulariaceae	Leaves	Leaf juice is used in indigestion. Roots are used in dental pain.
4	<i>Xanthium strumarium</i>	Agara	Asteraceae	Whole plant	Plant is diaphoretic, sedative and useful in long standing cases of malaria. Root is having anticancer activity and used in arthritis. Fruit is given in small pox.

home using round to flattened solid ball-like mixed dough inocula or starter^{11,4} and these contain amylolytic and alcohol producing yeasts, starch degrading moulds and lactic acid bacteria.¹⁰

The consumption of rice beer prepared from rice is a common practice among many tribal communities residing in the North-Eastern states of India and many of them have been preparing it since time immemorial.^{2,4} Rice beer plays an important role in the socio-cultural life of the tribal people as it is found to be associated with many occasions like merry making, ritual ceremonies, festivals, marriages and even death ceremonies.¹ The preparation and consumption of this type of liquor emerged mainly due to the climatic conditions and discovering the use of surrounding natural resources.⁵ There are also reports of rice beer being used as a drug.⁶ The various plants used by Bodo, Karbi, Ahom, Deori, Rabha, Mising, Sonowal Kachari tribes of Assam in the preparation of traditional rice beer or liquor have been reported in this article along with their ethno medicinal use.

1.1. Jou bishi: rice beer prepared by Bodo tribe

The Bodos are an ethnic and linguistic community, early settlers of Assam in the northeast part of India. Bodos belong to a larger ethnic group called the Bodo-Kachari. The Bodos are recognized as a plains tribe in the Sixth Schedule of the Indian Constitution. Udalguri and Kokrajhar are considered the centre of the Bodo area. The local rice beer prepared by the Bodos is known as *Jou bishi* and the starter cakes are known as *angkur*. This study was carried out in Kokrajhar district (Table 1).

For the preparation of *angkur*, rice grains are needed to be soaked in water approximately for 5–6 h. The different plant parts needed for starter cake are washed properly and grinded together with the soaked rice grain. Grinding is generally done in wooden mortar and pestle. By adding little amount of water to the mixture, dough is prepared and round cakes of about 5 cm in diameter and 1 cm of thickness are made. These are overlaid with powdered *angkur*. The round cakes are covered with paddy straw and allowed to dry for 4–5 days. It should be stored in moisture free condition.

For the beer, the rice is first boiled and then cooled and allow to dry. To this, *angkur* is added and properly mixed and kept for whole night. Then little amount of water is added to it and kept in an earthen pot atleast for 3 days covered with banana leaves. The fermented mass is mixed with water and strained to obtain the liquor *Jou bishi*.

1.2. Horlang: rice beer prepared by Karbi tribe

Racially the Karbis belong to the Mongoloid group and linguistically to the Tibeto–Burman group. The Karbis are the principal tribal community in the Karbi Anglong district of Assam. Besides Karbi Anglong, Karbi-inhabited areas include Dima Hasao, Kamrup, Marigaon, Nagaon, Golaghat, Karimganj and Sonitpur districts of Assam. They prepare a traditional alcoholic beverage called *horlang* and the starter cakes are known as *thap*. This beverage is used as a refreshing drink and also bears significance in many social ceremonies and events. This study was carried out in Kathkatia village of Silonijan, Karbi Anglong district (Table 2).

Table 2 – The different herbs used in the preparation of Horlang.

Sl no.	Scientific name	Local name	Family	Part used	Ethno-medicinal use
1	<i>Acacia pennata</i>	Themra	Fabaceae	Barks	Leaves are used for cholera treatment, indigestion, headache, body pain and even to cure snake poisoning. Stem bark is anti-inflammatory and spasmolytic. Roots are used in dysentery and urinary discharges.
2	<i>Artocarpus heterophyllus</i>	Kathal	Moraceae	Leaves	Leaf juice is used to cure eye problem. Seeds are used in indigestion and stem bark is used to cure boils.
3	<i>Croton joufra</i>	Mahudi	Euphorbiaceae	Leaves	Stem bark is used in post natal diarrhoea.
4	<i>Oryza sativa</i>	Dhan	Poaceae	Rice grain	Rice-wash water is used in diarrhoea and dysentery.
5	<i>Phlogacanthus thyrsoiflorus</i>	Titaphool	Acanthaceae	Leaves	Leaf decoction is used in cough, bronchitis, and fever.
6	<i>Solanum torvum</i>	Bhekuri tita	Solanaceae	Leaves	Roots are used in puerperal diseases; fruits are used in bronchial asthma and intestinal colic.

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