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ETHNOBOTANICAL OBSERVATION OF RICE BEER 'ZHUCHU' PREPARATION BY THE MAO NAGA TRIBE FROM MANIPUR (INDIA)

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ABSTRACT

Ethnobotanical observation of the preparation of 'Zhuchu'-a local rice beer by the Mao, a Naga tribe from Manipur (India) is being reported. Pounded germinated paddy ('Khekhrii') is used as starter for brewing the 'Zhuchu', a popular harmless drink of the Mao Naga tribe.

INTRODUCTION

The North-eastern region of India, with various ethnic groups, offers an excellent opportunity for ethnobotanical studies. Barely a century has elapsed since the distinct group of Nagas were forced to come into contact with the outside world. The dawn of modern civilisation has opened up the 'closed world' of the Naga villages. From simplicity to sophistication, the Nagas, within half a century, have changed their approach to life.

In spite of the vast scope for ethnobotanical researches, the communication between the research institutions and the tribes here has so far been limited to few accounts on the ethnobotany (Jamir & Rao, 1990 ; Megoneitso & Rao, 1983 ; Rao & Jamir, 1982a, 1982b, 1990; Mao, 1993), which largely deal with medicinal and wild edible plants used by Angami, Ao, Mao, Tangkhul and Zeliang of the Naga tribes. The Nagas are one of the Mongolian racial groups making up the population of North-east India hill states. The people called "Nagas" live in the present state of Nagaland, in the Naga hills of Manipur, in North Cachar and Mikir hills, Lakhimpur, Sibsagar and Nowgong in Assam, in the north-east of Arunachal Pradesh, in the Somrat tract and across the border into Burma (Yonuo, 1974).

The Nagas consist of 31 different tribes-Angami, Chakesang, Ao, Sema, Rengma, Lotha, Chang, Konyak, Sangtam, Phom, Zeliang, Mao, Maram, Tangkhul, Maring, Anal, Mayao-Monsang, Lamkang, Nockte, Haimi, Htangun, Ranpan, Kolyo, Kenyu, Kacha, Yachimi, Kabui, Uchongpok, Makaoro, Jeru and Somra (Horam, 1975). The present study, on the preparation of rice beer is the first of its kind. It reveals how the local plants have been traditionally used by the Nagas in their day to day life.

THE MAO TRIBE : The Mao tribe inhabits the northern hills of Manipur in North-east India. They dwell on the hill-tops. Their villages and hamlets are expressive of their hard working and independent nature. They have learned to live with the hard terrain of the hills for centuries.

The Mao are settled agriculturists. They convert the hill-slopes into terraces and cultivate

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Fig. 1-3. : Showing different stages in the preparation of rice beer. 1 Natural starter 'Khekhrii' preparation. (a) Conical earthen jar used for fermenting paddy. (b) Fermented paddy wrapped in fresh green leaves of *Justicia adhatoda* and put in bamboo basket for germination. (c) Germinated paddy being dried in the sun. 2. Pounded rice flour mixed with boiling water in bamboo bucket. 3. Earthen jar used for brewing the rice beer 'zhuchu'.

rice crops which is the staple food for them. They also grow maize, millet and fruits as pears, plums, oranges, lemon, etc. on the hills by clearing the forest patches.

Religion for the Mao is not clearly defined. However, they have a deep faith in a supreme creator, who is believed to be the universal God.

There are four major religious festivals (i.e. Chijini in April, Saleni in July or August, Onooni in September and Chithooni in December or January) of the Mao tribe within the year. The festivals are celebrated in commemorations of work and of the seasons. The festivals are celebrated merrily with a great deal of home made rice beer (zhuchu) and meat.

RICE BEER 'ZHUCHU'

The rice beer, a common drink of the Nagas, varies in flavouring. It is called 'Zhuchu' by the Mao people. The beer is drunk with food or alone like fruit juice or water by men, women and children of the community. It is considered to be good for health in a moderate quantity but it becomes toxic when consumed in large quantity. Nagas have the tradition to receive guests with Zhuchu till courteous refusal from guest side.

MATERIALS AND METHODS

The present study is based on the observation made by the author who himself is a Mao Naga. Ethnobotanical information presented here was gathered with the help of the elder members of the community. The plant materials used in the preparation of natural starter 'Khekhrii' were collected and identified at the Botanical Survey of India, Eastern Circle, Shillong.

RICE BEER ('ZHUCHU') PREPARATION

Rice beer preparation involves two distinct processess, *viz.* Khekhrii or natural starter preparation and beer brewing. The entire process combines the use of some special type of rice (*Oryza sativa* L.) (Poaceae) and fresh plant species like *Elscholtzia blanda* Benth. (Lamiaceae), *Justicia adhatoda* Nees (Acanthaceae) as well as the plant based vessels. The materials required for the local 'yeast' making are : Gourd [*Lagenaria siceraria* (Molina) Standley] (Cucurbitaceae) shell as jar, earthern pot, charcoal (2 pieces), fresh twigs (two only) of *Elscholtzia blanda*, fresh leaves of *Justicia adhatoda* and bamboo basket.

NATURAL STARTER PREPARATION ('KHEKHRII')

The natural starter is called 'Khekhrii' by the Mao people. The water used for making 'yeast' culture is brought in a gourd (*Lagenaria siceraria*) shell from a spring. They have belief that if water is brought in any other jar it spoils the 'yeast' culture. Paddy used for making 'yeast' culture should not be more than a year old. The clean paddy is put in a conical earthen jar (Fig. 1a) and filled with water brought in the gourd shell. Two pieces of charcoal and two fresh twigs of *Elscholtzia blanda* are also put in the jar. These quantities are quite significant and have to be strictly adhered to. The charcoal peices and fresh twigs of *Elscholtzia blanda* act as the quality regulator in the process of 'yeast' culture preparation by keeping the rice free from contamination. The mouth of the jar is closed tightly with fresh leaves of *Justicia adhatoda* which is considered to enhance the taste and flavour of the drink. The jar is then kept in a safe corner of the house for fermentation. Duration for fermentation depends on the room temperature. In general it takes about a week in summer and two weeks in winter season. At the end of fermentation a stinking odour comes out when the mouth of jar is opened up. Once the fermentation has taken place the contents of the jar are poured into a sieve and the water

is drained off. The fermented paddy seeds is then wrapped in fresh green leaves of *Justicia adhatoda* and put in a bamboo basket for germination (Fig. 1b). To make it more air tight and also to raise the temperature a piece of cloth is usually put on the top of the basket. The paddy germinates within a week in warm weather but it may take two weeks in cold weather. The basket is opened after the germination has taken place. The germinated paddy is then dried in the sun (Fig. 1c) and stored in dry container for use as 'starter' as required. According to the requirement a mug of the dried germinated paddy is taken, pounded into powder and used as 'starter' in the preparation of rice beer or the 'zhuchu'.

RICE BEER BREWING

For the preparation of rice beer different types of rice are used. However, the best beer is obtained from the glutinous type of rice widely cultivated by the Nagas. The rice is usually soaked overnight in water and then washed thoroughly, draining off the excess water by pouring into a sieve. The rice is then pounded into flour with a mortar, put in a big bamboo bucket and mixed with boiling water by stirring with a long bamboo spoon (Fig. 2). It is then left to cool down. When it completely cools down the 'starter', *i.e.* powdered germinated paddy, is stirred and left about eight hours for brewing after which the whole mixture is poured into a big earthen jar (Fig. 3) and more water is added to make the volume up to the neck. Within three or four days it forms a profuse whitish froth and the rice beer is ready for consumption. The new rice beer has a sweet taste with a peculiar flavour but it becomes stronger, with an acrid taste, as gets older. The best drink is obtained when it is four to five days old after which it becomes slightly sour and loses its good taste as well as the flavour.

CONCLUSION

The paper presents the first ethnobotanical report on rice beer preparation by the Mao, a Naga tribe from Manipur (India). This paper does not deal with the biochemical and microbial aspects of the fermentation process. Charcoal pieces used in the fermenting process may be acting as a buffer by absorbing unwanted subtances produced in the process as charcoal is known to absorb dyes, toxic substances etc. *Elscholtzia blanda* twigs and *Justicia adhatoda* leaves which are believed to contribute the quality, taste and flavour of the drink require a critical study. The nutrient value is not known even though it is considered as good for health. There is ample scope for improving the rice beer quality which could have a great commercial value. However, this requires the interest of brewing companies and other scientific organisations already active in screening for synthetic or natural drugs in order to develop further. Unfortunately, with the advent of modern civilisation and the introduction of imported drinks, foods etc. the local drinks have been rapidly replaced by exotic drinks which are more harmful to health. Hence, people with the right scientific mind and attitude should make every effort to preserve the rich scientific wealth of the tribal peoples before the modern civilisation swallows them up.

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