



Ethnobotanical Uses of Wild Edible Fruits of *Vitaceae* in Kerala

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Fruit is a ripened ovary usually developed as a result of flower being pollinated. Plants are cultivated as well as wild, mainly cultivated fruits are grown by farmers for economical value while utility of wild fruits are occurring only in their natural habitat. As population increases the areas of plantation and forest used for human welfare, so wild edible plants lost their identity and decrease in their number. The objective of the study is to analyse ethnobotanically important edible fruits of *Vitaceae* in Kerala. Wild fruiting plants are major in numbers in Kerala which are not affected by human interaction due to their difficult geographic and climatic conditions which is not suitable for human survival. *Vitaceae* family includes 5 genus belonging to Kerala that are ethnobotanically very significant and edible.

Keywords: Wild fruit; Kerala; ethnobotany.

1. INTRODUCTION

Wild edible fruits are distributed globally and mostly found in the parts of earth where anthropogenic activities are no or negligible [1].

The utility of wild fruits of Kerala for food and medicine has been known for a long time. Wild edible fruits are very important for the well being of local populations in the state, not only as sources of nutritionally balanced diets,

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medicines, fodder and fuel, but also for their income generating potential. Large numbers of wild fruits along with their edible values also used in tribal medicine and many other wild fruits *Cayratia pedata* (Lam.) Gagnep., *Cayratia mollissima* Wall., *Ampelocissus latifolia* (Roxb.) Planch, *A. indica* (L.) Planch. etc., have high nutritive value and used by the tribal peoples for the different edible products. Ancient times, wild edible plants have sustained human populations in each of the inhabited continents. Dietary use of wild fruits, nuts, seeds and leaves appearing numerous historical records [2]. The present study deals with the ethnobotanical exploration, identification, concerns and future potentialities of the wild edible fruits consumed by the tribes inhabiting the tribal groups of Kerala. Four species of wild edible fruits belonging to were recorded. Wild edible plants play a very important role in the livelihoods of tribal communities as being an integral part of the subsistence strategy of people in several developing countries. The wild edible fruits of *Vitaceae* having nutritional food value provide minerals like sodium, potassium, magnesium, iron, calcium and phosphorus. Due to the introduction of exotic varieties, the dependence on wild edible fruits has gradually declined. Most of them are preserved for the use in the dry period or sold in the tribal market. The popularity

of these wild edible forms has recently decreased. Wild edible fruits are generally used as raw or processed, which help to compensate the day to day requirement of calories. These fruits play a significant role in human nutrition, especially as sources of carbohydrates, proteins, vitamins C, A, thiamine, niacin, pyridoxine, minerals, dietary fiber and enormous medicinal potential [3].

2. MATERIALS AND METHODS

Kerala is one of the place suitable for wild edible fruiting plants because of their difficult geography and climatic conditions and awesome taste of fruits which is attracted by tribal people as a rich source of their nutrition. Kerala is rich in diversity of wild edible fruit plant species. For the well-being of rural populations in Kerala, wild edible plants are very important not only as sources of supplementary food, nutritionally balanced diets, medicines, fodder and fuel, but also as sources of income that generate potential. Kerala is a part of India and is located between 28° 43'-31° 27' N latitudes and 77° 34'-81° 02' E longitudes. On the basis of tribal information, current article focused on the nutritional and medicinal values of wild fruits which are located in Kerala, which can be explore for their great nutritional and medicinal properties.



Map 1. Study area

Ethnobotanical field survey with the help of village headman and the persons who have knowledge of wild edible fruits of *Vitaceae* were undertaken during 2014 December to 2018 February. Ethnobotanical survey conducted thrice in every year with duration of 20- 25 days. The vast knowledge of local guides and informants were taken up to locate and collect the peculiar plant species from the premises of settlement and nearby forests. Ethnobotanical informations were collected from the women folk and children who are largely involved in the collection of wild fruits, rarely men also contributed in collecting information. The knowledgeable informants were taken directly to the field and information was collected through in depth interviews. Informal discussions were carried out with the informants having high degree of herbal knowledge. Collected plant specimens were identified with the help of various floras [4]. Voucher specimens (RHK 6021, 6022, 6034, 6035, 6036) were deposited in the herbarium (RHK), Department of Botany SB college, Changanacherry, Kottayam. The identified plants are arranged in table form. Plants are organized alphabetically with botanical names followed by vernacular name, habit, flowering and fruiting [5].

3. RESULTS AND DISCUSSION

Forests provide livelihoods and food for about 300 million people in the form of nontimber forest products. A small handful of widely cultivated

species have come to rely on food security. Over 50 percent of the world's daily requirement of proteins and calories comes from three crops, wheat, maize and rice 12 species contribute 80 percent of the total dietary intake. Ethnobotanical surveys of wild fruit plants indicate that more than 7000 species have been used for human food at some stage in human history. Some indigenous communities use over 200 in India, 600 plant species are known to have value as food [6]. Malnutrition is a major health burden in developing countries and the recognition that nutritional security and biodiversity are linked is the basis for enlisting policy support to secure wild food use and preserve habitats for wild edible species [7]. Tribal communities are the custodians of the wild edible biological resources [8]. The study focused at the knowledge of wild edible fruits consumed by the Kerala. Fruits of these plants have been found to be used for edible purposes [9].

The blackish purple berries of *A. latifolia* are sweet-sour in taste, relished by tribals and frequently eaten by birds. This species is one of the wild grapes occurring though out India. Leaves and fruits of *Cissus discolor* used as a substitute for salt in different tribal groups of Pathanamthitta. *Cayratia pedata* young fresh fruits for curries. *A. indica* fruits dipped in hot water and washed in cold water removing water fruits are ready for the preparation of pickles. This is mostly used by the Edamalar tribes.

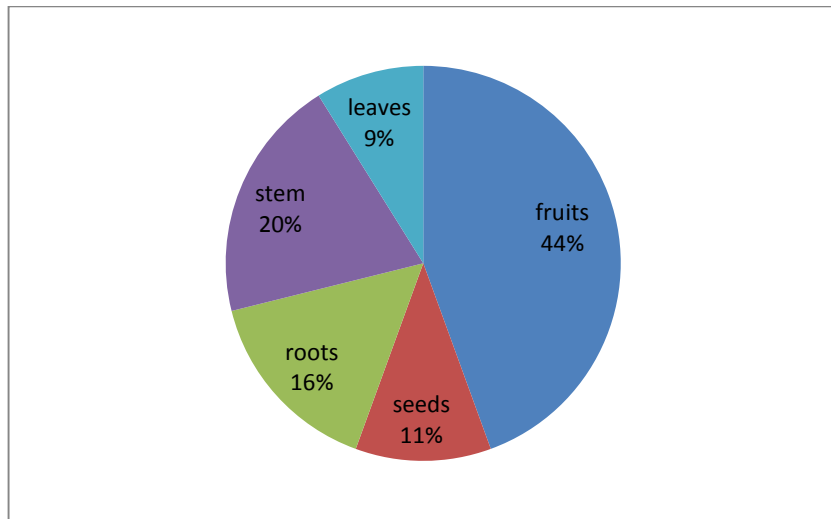


Fig. 1. Wild edible forms %

Table 1. Ethnomedicinal informations

Sl. no	Botanical name	Local name	Habit	Useful part	Ethnobotanical uses
1	<i>Cissus discolor</i>	Aronpuli	Climber	Fruits	Currants
2	<i>A. latifolia</i>	Valiyapirappitikka	Climber	Fruits	Pickles
3	<i>A. indica</i>	Chembaravalli	Climber	Fruits	Pickles
4	<i>Cayratia pedata</i>	Velutta sori valli	Climber	Fruits	Vegetable
5	<i>C. mollissima</i>	Bush grape	Climber	Fruits	Curries

**Fig. 2. A. Cayratia pedata, B. Cissus discolor, C. A. latifolia, D. Cayratia mollissima**

4. CONCLUSION

This study highlighted the importance of wild fruit species as a source of nutrients for tribal groups. Wild fruit plants can be included in agro and farm forestry and reforestation programme, which have so far focused only on timber species. Wild fruit plantation not only improves food base for humans but also helps in sustaining wild animals particularly herbivore and bird and other insect population. Yet, due to growing population, over exploitation and depletion of biodiversity by natural and artificial hazards, there is a need to collect and conserve those plant species before the threat of extinction [10]. Propagation of its population through advanced techniques be tried and introduced in ecologically rich areas and

botanical gardens to increase the accessibility of the species. Kerala is one of these places which is suitable for wild edible fruiting plants because of their different geographical and climatic conditions and awesome taste of fruits which is attracted by the tribal people as a rich source of their nutrition [11]. Kerala is characterized by a rich diversity of ethnobotanic plants as well as rich heritage of wild edible plants system [12]. Many wild fruits such as, *A. indica*, *A. latifolia*, *Cayratia pedata*, *Cayratia mollissima* etc. have high nutritive quality and used by the local peoples for different edible products [13]. Among these many other wild fruits such as *Cayratia* etc have been reported for the good medicinal properties.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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